

THE INFLUENCE OF MACROECONOMIC INDICATORS ON HOMICIDE AND RAPE IN JAMAICA: AN EMPIRICAL INQUIRY THAT REVISITS THE OLD POVERTY-HOMICIDE PARADIGM

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ABSTRACT

INTRODUCTION: It is historically demonstrable that the Caribbean was instituted on intentional killing of humans and unadulterated rape. These have continued almost unbridled in today's seemingly dysfunctional societies. Despite the plethora of empirical and qualitative studies that have been conducted on those phenomena, the Caribbean is featured among the top 10 nations with the most homicides per 100,000 people in the last decade. Chief among the promulgated factors is poverty-an explanation which is referred to as the poverty-homicide paradigm.

OBJECTIVES: This study examined 1) the poverty-homicide paradigm; 2) macroeconomic indicators (i.e. GDP per capita; exchange rate; inflation; unemployment, and poverty) and their influence on homicide rates, and 3) macroeconomic conditions' influence over poverty rates.

METHODS AND MATERIALS: This paper used secondary panel data collated from various government publications as well as the World Bank and the International Monetary Fund (IMF). The data period spans 1980-2015, however, the data for poverty is constrained between 1989 and 2015. Multivariate analyses were used to analyse the data, evaluate hypotheses and establish models.

FINDINGS: For the studied period, the average rate of intentional killings in Jamaica was 40.4 ± 13.1 per 100,000 compared to 50.5 ± 8.2 per 100,000 mid-year population for rape and carnal abuse. All five macroeconomic indicators-exchange rate; inflation rate; GDP per capita; unemployment rate, and poverty rate-collectively account for 82.3% of the variability in homicide rates (adjusted squared $R=77.6\%$; $F=17.611$, $P<0.001$) and 39.5% (adjusted squared $R=23.6\%$; $F=2.482$, $P=0.068$) of variability in rape rate in Jamaica. In fact, unemployment and poverty rates account for 53.7% of the variance in intentional homicide rates in Jamaica, with the GDP having the least effect on the homicide.

CONCLUSION: The poverty-homicide paradigm must be changed to reflect the new reality as it is not increasing the homicide pandemic in Jamaica.

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For decades, Jamaica, like many developed and developing nations, has been plagued by unabatedly high rates of homicide (Bourne & Hudson-Davis, 2016; Bourne, Hudson-Davis, Sharpe-Pryce, Francis, Solan, Lewis, et al., 2015; Bourne, Hudson-Davis, Sharpe-Pryce, Francis, Solan, & Nelson, 2015; Bourne, Hudson-Davis, Sharpe-Pryce, Solan, Nelson, Smith, Francis, 2015; Bourne & Solan, 2012; Harriott, 2004a, 2004b, 2004c; Koppensteiner & Manacorda, 2015; WHO, 2012). The state of major crimes in the Caribbean, especially intentional homicide (or murder), has led to studies being conducted on the matter, with one being sponsored by the World Bank (Levy, 1996) and another by the Department of Government, University of the West Indies (Powell, Bourne & Waller, 2007). There is no denying that the Caribbean has been experiencing a homicide pandemic (Griffith, 2004a, 2004b; Bourne, Hudson-Davis, Sharpe-Pryce, Francis, Solan, & Nelson, 2015), which Gray (2003a, 2003b) ascribed to the state of the economy and the societal culture. Gray contended that crime is as a result of "the failure of economic policies, near-weekly accounts of human rights abuses, and recurrent disclosures of the corruption of power, [with] political bosses retain[ing] their predominance, and the political apparatus that supports them [remaining] largely unchanged..." (Gray, 2003b, p. 73).

Gray's perspective offers insights into the state and reasons for social deviance in Caribbean nations, particularly Jamaica, and at the nexus of the crime monster (homicide or murder) is the state of the economy. A national probability cross-sectional study which was conducted by Powell, Bourne and Waller (2007) of some 1,338 Jamaicans, identified crime and violence as the leading national problems in the society. Economic uncertainty was highlighted as a contributing social problem. An internationally reputable sociologist, Professor Don Robotham,

believed that poverty is at the heart of the crime problem in Jamaica (Robotham, 2003). The high rates of major crimes, particularly homicide (murder), have resulted in many studies in the area in an attempt to understand the phenomenon (Simmonds, 2004; Sives, 1997, 2003; Tremblay, 1995)-including the United Nations and Economic Commission for Latin America and the Caribbean (2008) and the United Nations and World Bank (2007). The state of the homicide level is alarming in Jamaica as an empirical study conducted by Bourne, Hudson-Davis, Sharpe-Pryce, Solan, Nelson, Smith, ... Francis, (2015) found that Jamaica reported more homicide per 100,000 population than the metropolitan city of New York.

To shed light on the gravity of the homicide pandemic in Jamaica, Bourne, Hudson-Davis, Sharpe-Pryce, Solan, Nelson, Smith, Francis (2015) explained, "the homicide and sexual assault and rape rates have shown varying trends in Jamaica and New York during the period between 1970-2013, with the rates for Jamaica almost twice that of New York" (p. 231). The study further revealed that on average 3.3 people are murdered daily in Jamaica in 2013 compared to 1.8 in New York during the same period. It is instructive to note that the population of New York was 7.24 times greater than that of Jamaica's population during 2013 (i.e. New York, 19,651,127 people; Jamaica, 2,714,734)-(Bourne, Hudson-Davis, Sharpe-Pryce, Solan, Nelson, Smith, Francis, 2015, p. 248). The homicide pandemic is typical in the Caribbean as the Caribbean Region reported the highest rate of homicide in the world for the period 1999-2005 (United Nations and World Bank, 2007). --See Figure 1 for 2002 and Figure 2 for 2012 and 2014.

According to the data published by the United Nations and World Bank (2007), for 2005, Dominican Republic, Trinidad and Tobago, and St.

Lucia reported murder rates greater than most nations in the globe, with it Jamaica and Haiti reporting higher homicide rates than all other Caribbean nations (p. vi)-see Figure 3.

Using homicide rate data for the Caribbean and Latin America, Gagne (2016) revealed that Jamaica is ranked 5th among those with the highest rates-45 per 100,000 for 2015. El Salvador reported the most homicide rates in the Region with 103 per 100,000 population followed by Venezuela which reported 90 per 100,000 population (Gagne, 2016). On the contrary, for 2014, homicide rates in Barbados was 21 per 100,000 population compared to 34 per 100,000 population in St. Lucia, 9 per 100,000 population in Dominica and 13 per 100,000 population in Antigua displaying the high crime realities in many Caribbean nations (Bureau of Diplomatic Security, 2015). In order to provide a clear understanding of the severity of the homicide problem in the Caribbean region, a quotation from UNICEF is aptly fitting which reads "Latin America and the Caribbean is considered to be one of the most violent regions in the world. Six million children and adolescents in Latin America and the Caribbean suffer severe abuse, including abandonment, each year" (UNICEF, 2009, p. 2). UNICEF further stated that "the Caribbean ranks first, globally, when it comes to murder rates and claims the highest rates of homicides among young people aged 15-17. Boys are six times more likely to be victims than girls" (UNICEF, 2009, p. 2), indicating a high rate of social ills in those societies.

The equally hideous social monster of rape, whether violent or statutory has devastating long-term and short-term effects. No other crime so forcibly invades an individual's mind and body simultaneously. Violent acts against women affect a significant percentage of women and girls worldwide and invariably the Caribbean is no exception. Due to the stigma attached, rape is usually greatly under-reported and countries with a relatively high record of reported rape cases

can actually be a positive indicator of high trust levels in the judicial and victim support systems. However, given the fact that most of the rapes reported actually occurred it stands to reason that despite the high record of reported rapes, this inherently reveals a serious problem. According to a 2007 Joint Report by the United Nations Office on Drugs and Crime and the Latin America and the Caribbean Region of the World Bank, the latest available Crime Trends Survey data shows that three of the top ten recorded rape rates occur in the Caribbean. Jamaica was ranked fourth with 51 cases of reported rape per 100,000 of the population. Of note is that all countries in the Caribbean for which comparable data is available reflected a higher rate of rape than the un-weighted average (15 rapes per 100,000) of 102 countries responding to the Crime Trends Survey.

Using the 2012 figures of the Crime Trends Survey, Carlqvist and Hedegaard (2015), noted that the top ten countries with the highest rate of rape crimes per 100,000 population in the world were Sweden (66.5) followed by Jamaica (34.1); Bolivia (33.0); Costa Rica (29.8); New Zealand (29.6); Belgium (27.6); USA (26.6); Brazil (24.9); Norway (22.3) and Finland (18.7). This unenviable moving up of position for a small Island nation demands urgent and sustained efforts to understand and combat instances of rape and abuse. Using path analysis, one researcher found a statistical correlation between homicide and rape (DeLisi, 2014). Such finding brings into a discussion on homicide, homicide-rape or rape and carnal abuse, which has been empirically examined by researchers (Bourne, Hudson-Davis, Sharpe-Pryce, Francis, Solan, Lewis, et al., 2015). From the previously mentioned studies, it can be deduced that some of the intentional homicide cases are a direct result of rape cases in the society.

The consequences of rape on the individual may have the following classifications or traumatically manifest itself in a physical, mental or emotional

state. The physical manifestations may include unplanned pregnancies, adverse health problems, diseases or specific interferences to a woman's normal bodily functions. The psychological effects may be displayed through bouts of self-pity and follows on a continuum towards more devastating episodes of suicidal tendencies. Rape and its general effect on the community and society may usually be measured by the community's response. "First-world" or those countries who have attained a more highly developed status usually have a high level of community response where they will commonly be supportive and encouraging to the victim. However, the scenario is notably different in regions such as the Caribbean and various other countries who operate below the poverty line, where rape victims are generally neglected or the crime itself is given a low priority ranking. (Bourne, Hudson-Davis, Sharpe-Pryce, Solan, Nelson, Smith, Salmon, 2015). Consequently, community response is often negative and victim focused. Often, the victim is ostracised and left to deal with the vestiges of the rape alone.

Traditionally, the widely held and used paradigm for policy formulation and 'philosophisation' has been 1) a separation of rape and homicide and 2) that poverty directly influences homicide rates. Two of the Caribbean's leading criminologists, Professor Anthony D. Harriott, and Marlyn Jones lamented the state of major crimes in Jamaica and forwarded that while major crimes have been trending down in Jamaica, rape rates have been trending upwards. Anthony Harriott (2004a, 2004b), Marlyn Jones (Harriott & Jones, 2016), Robotham (2003), and Tremblay (1995) as well as United Nations (UN) and World Bank (2007) have all been among those supporting the poverty-homicide paradigm. But the reality is that this paradigm has clearly not explained the situation. In fact, in 2016, Harriott and Jones indicated that there is a need to re-examine some of the policies as they have not worked as intended. The empirically established poverty-homicide

paradigm has been impacting policies and social programmes and this thinking must be placed under the microscope as clearly it is not addressing the contemporary realities-crime reductions. If we are taking the position that policies are impacted by paradigm, then the issue for re-examination would not be the policies but the paradigm.

For decades, the poverty-homicide paradigm has been the roadmap for thinking in the Caribbean and this theory has not helped us to solve the problem. As a result, we must re-evaluate this paradigm and change our thinking if the roadmap is wrong and leading us away from the problem. Covey (2004) contended that "we interpret everything we experience through these mental maps [paradigm]" (p. 24) and so a paradigm shift is needed to change our old ways of thinking. In fact, Kuhn (1996) introduced the term 'paradigm shift' in his book *The Structure of Scientific Revolution* as being critical to changing traditional ways of thinking in order to solve current problems. It is this perspective that we hold as no scientific or revolutionary breakthroughs have occurred in history by way of the old paradigm. To fully grasp the homicide and/or rape pandemic in the Caribbean, especially Jamaica, other variables must be brought into the discourse such as other macroeconomic variables such as inflation, the exchange rate, unemployment, and the Gross Domestic Product (GDP) per capita (or standard of living). Dating back to the late 1960, Becker (1968) empirically established that cost and punishment of crime include unemployment, age, and the probability of being caught, expected sentencing if convicted, income, and wage from criminal activity. Other studies have included other macroeconomic factors such as inflation and GDP (Ellis, 1992; Bourne, Hudson-Davis, Sharpe-Pryce, Francis, Solan, Lewis, et al., 2015; Bourne, Hudson-Davis, Sharpe-Pryce, Francis, Solan, & Nelson, 2015; Bourne, Hudson-Davis, Sharpe-Pryce, Solan, Nelson, Smith, Francis,

2015; Bourne, Hudson-Davis, Sharpe-Pryce, Solan, Nelson, Smith, Salmon, 2015); but none have evaluated the poverty-homicide philosophy and most of the macroeconomic indicators on homicide as well as rape in a single research. This study, therefore, examines 1) the poverty-homicide paradigm; 2) macroeconomic indicators (i.e. GDP per capita; exchange rate; inflation; unemployment, and poverty) and their influence on homicide rates, and 3) macroeconomic conditions influence over poverty rates. This then channels the discussion into a review of literature that provides some historical context for this study and how past studies have examined the issues and by extension contextualizes this paper.

REVIEW OF LITERATURE

CONCEPTUAL FRAMEWORK

This study employed concepts from Sameti, Esfahani and Haghghi (2012) theories of poverty, conflict theory, social learning theory and Miller's (1994) theory of place. These theories emerged from the seminal theoretical contribution of feminist scholarship to social discourse since 1947 which had patriarchy as its central theme and was parented by Weber (1947). Miller, like other theorists have extended the Weberian concepts in social theorizing and analysis.

Therefore, to understand the myriad of factors contributing to poverty and the relationship among poverty, homicidal rate, unemployment and foreign exchange rate, five ideas will be used to shape the conceptual framework of this study. The first idea relates to the organization of social criteria where groups of varying power and influence for opportunity resides (Miller, 1994). This concept is pivotal in the context of this study, as some persons are viewed from the standpoint of the organization of social criteria, where they are believed to be marginalized in the public domain of the state and economy (Miller, 1994). Miller (1996) argued that factors such as demographic, ecological, and technology have

fuelled a change in society from traditional conceptions of genealogy, gender, and generation to a more democratic and equitable society. Here, groups of varying power and influence for opportunity barely concede enough opportunities for upward social mobility to groups in society while conserving as much advantage for themselves. Miller further stated that bias in the structuring of opportunities-which invariably favours people from varying strata of the social ladder-is a strategy used by dominant groups.

The second idea points to the individual factors influencing the variables in this study. Here, socialization practices in varying agencies are said to create dissonance with the success expected of individuals (Figuroa, 1998). The individual factors that give rise to poverty, according to Gans (1995), include human capital, the attitudes of persons, and welfare participation, the free market dynamic/system, which is believed to be a system that provides opportunity for all the necessary parties, share on a deep level much of its values and beliefs with the theory of individualism. Rank (2004) suggested that this the orye spouses to a great degree the tenets of individual responsibility and hard work in order to acquire one's basic needs which include food, shelter and health care services.

The third set of ideas entails cultural factors. This concept provides a frame work that explain show poverty is spawned and perpetuated in certain locales or among certain groups. Within this context, the cultural factors relate to the influential powers of the physical environment in which people reside; these factors are strong determiners of success or poverty (Sameti, Esfahani & Haghghi, 2012). Wilson opined that the inner-city under classis ostracised socially from main stream conduct, and, with a complete lack of economic opportunity, usually gravitates towards negative behaviours such as having babies outside of marriage, dependence on welfare, and crime that usually

prove burdensome to the economy. These deviant behaviours usually sustain the cycle of poverty for the inner-city underclass. (Sameti, Esfahani & Haghighi, 2012). The opportunity theory of poverty postulates that based on the structure of the social system it usually favours certain groups to succeed.

The fourth idea surrounds structural factors. This group holds that bigger economic and social structures account for poverty. The structural factors perspectives argue that the phenomenon of capitalism create conditions that contribute to poverty. Beeghley (2000) believed that basically, the structure of the economy and its effect, is what perpetuates poverty among the majority despite an individual's effort such as hard work, and skill. Functionalist theory, labour market theories, and the social exclusion perspective shed more light on the structural causes of poverty. Poverty is believed to be an important social, economic and political function for society in general, and for the middle and wealthy classes in particular (Davis & Moore, 1945).

The fifth concept that shapes this conceptual framework is social exclusion. This is important in the context of this study as social exclusion occurs when people are deprived of equal opportunities in a society. This spans more than just poverty, it includes but is not limited to homicidal rate, unemployment and foreign exchange earnings, poor skills, discrimination, low incomes, poor housing, educational barriers, income inequalities, high crime, breakdown in family structure, lack of social amenities and opportunities. Therefore, social exclusion is the consequence of people or places encountering a combination of interrelated problems. Social exclusion can be institutionalized by socioeconomic and political elitists and has been creating a dismal future for current and future generations. People who are trapped in social exclusion are immersed in persistent poverty, unemployment and are kept on the periphery of mainstream society. Consequently, social

exclusion creates social division among different strata of people in society.

The conflict theory attributes stratification and thus, poverty to a shortage of opportunity from the forces of discrimination and prejudice devised against certain minority groups such as the poor, women, and people of colour. Conflict theory's attempt to explain stratification sees it borrowing from Marx's view of class societies and incorporates the critique of the functionalist view. All explanations grounded in conflict theory makes the assumption that stratification stems from a deep-rooted conflict between the needs and interests of those considered to be the powerful, or the "haves", in society versus the weak, or "have-nots" (Kerbo, 2012). Thus, stratification may be reasoned to be a dysfunctional and harmful entity to society, which may result in competition between the rich and the poor as individuals act for their own economic advantage. Undeniably, the theory of place, the social learning theory and the conflict theory are particularly significant to this study because they intersect and are not mutually exclusive.

HOMICIDE RATES

There is absolutely no denial that there is a homicide pandemic in the Caribbean region, with Jamaica being the chief among the societies with the highest rates. Emmanuel and Campbell (2012) stated:

Homicide rates have increased over the past 15 years, especially in Jamaica and Trinidad. The link between suicide, homicide, and homicide followed by suicide (H-S) is not well established. A newspaper review of H-S events in a selection of Caribbean territories revealed a surprising number of these events. Characteristics of perpetrators were similar to those documented in the literature national tracking systems for H-S are needed. Empirical research on this topic in the Caribbean is also desperately needed (p. 469).

Emmanuel and Campbell gave the impression that the homicide problem in the Caribbean dates back to 15 years ago, however this is misleading as the matter goes back to the 1990s. Harriott (2004b) indicated that “the problem of crime in the Caribbean -its causes, its consequences, and its control -emerged as a major concern during the 1990s” (p. 1). Harriott, a Caribbean criminologist, continued:

the Caribbean Community (CARICOM) Heads of Government Conference, at its Twenty-Second Meeting held in Nassau, Bahamas in July 2001 expressed disquiet with regard to this problem and the threats that it poses to public safety and to the social and economic well-being of the people of the region” (p. 1).

The reality is that, in spite of the plethora of empirical studies and simultaneous intervention programmes, there has been an increase in the homicide rates in Caribbean nations more than what existed in the 1990s. Contextualizing violence and political violence in particular, the Library of Congress (1987) wrote:

The nation's political violence derives from the socioeconomic structure of Jamaican politics, that is, social stratification along racial and economic class lines. Increasing political, social, and economic polarization in Jamaica has contributed to both political and criminal violence (p.3)

Owing to the state of major crimes in Latin America and the Caribbean region, empirical studies have been conducted on the matter, particularly homicide, in attempt to understand the root causes so as to create the right intervention programmes. Tremblay (1995) and Ellis (1991, 1992) used multiple regression techniques to determine factors that predict crime. Long before Tremblay (1995), the use of econometric analysis was introduced and used to examine the cost of crime and its correlates (Becker, 1968). The previously mentioned scholars collected survey data on crime and established various exogenous variables impact

on major crimes in a society-including unemployment and poverty. Using survey data from Jamaica for 1950 to 1984, Ellis (1992) empirically established factors that account for crimes. The empirical model by Ellis (1992) identified socio-economic correlates of crime.

The major crime pandemic in the Caribbean region (including homicide) have resulted in many books and articles being written on the matter, with most of them written from an objectivistic epistemology. These include the work of Harriott (2003), Harriott (2003a), Gray (2003a) and Chadee (2003). Harriott's and Chadee's work employed multivariate statistical techniques, logistic regression and multiple regression analysis respectively. Chadee went further when he used path analysis to establish factors, direction and inter-correlation between factors in a path model of fear of crime in three major ethnic groups in Trinidad.

Among the factors that have been empirically established as associated with crime in the Caribbean are 1) age, 2) area of residence, 3) subjective social class, 4) poverty, and 5) politics, (Ellis, 1992; United Nations & the World Bank, 2007; Bourne, 2011). One anthropologist, using established empirical work on the association between crime and poverty as well as other factors (Tremblay, 1995), contended that poverty (or material deprivation and marginalization) is exploited by the political arena in Jamaica and has produced the violent society that exists today (Robotham, 2003). Unlike other studies that utilized survey research methodology and advanced statistical techniques, Robotham (2003) used various social constructions to argue his perspective about the marriage between crime and politics in Jamaica.

Robotham (2003) having brought up the issue of politics to explain the major crime pandemic in the Caribbean, more so Jamaica, offers yet another insight to the matter. One year later, using historical analysis (constructionism),

Simmonds (2004) comprehensively examined the crime matter in Jamaica. She dated the study to the early nineteenth century and forwarded that because of the neglect coming from the then political structure slaves decided to establish a community in Kingston (Western Kingston) to provide a source of survivability. The author states:

...the granting of civil rights to the members of the freed population in the 1830s might be viewed as more than the consequence of political demands made by the more privileged coloureds. It can be seen as an attempt to create an 'aristocracy' in the community, thereby inserting a wedge between the slaves and some of their more mobile and influential free collaborators (p. 31)

The link between crime and politics in the Jamaican society, is historical in nature and can be traced long before the 1970s (Sives, 2003; 1997) and the 'Badness-honour' which is stamped across the current nation is a clear vestige of the 1970s (Gray, 2003a) even though this phenomenon began before this period (Sives, 2003). "The historical roots of violence in Jamaica: The Heart Report 1949" Sives (2003) is an article that argues that "strong-arm politics" was a tactic employed in the 1940s by the two political parties, the Jamaica Labour Party and the People's National Party in a bid to secure governance of the nation. She made note of how intense the rivalry was that many people died in the process, particularly political followers. The 1970s intensified as the years progressed (Gray, 2003a). According to Gray (2003a), both political parties (JLP and PNP) had political enforcers and killers, thus introducing political patronage into the society, and 'badness' became interwoven into the fabric of the Jamaican culture. The intense political rivalry which existed between the two traditional political parties in an effort to protect resource allocation contextualized an era of some of the most violent crimes (Gray, 2003a,

2003b; Sives, 2003) and electoral crimes (Figueroa & Sives, 2003).

Statistics revealed that the 1980s was marked by wanton murders, though it started in the 1970s (Gray, 2003). During the 1990s there was a 54.6% increase in murders and a 76.6% increase by the end of 2000 (Bourne, 2011). Globally, instead of a broad discussion on major crimes which is equally the case in Latin America and the Caribbean, the discourse is more in keeping with homicide. The rationale for the singling out of homicide from major crimes is simply because of the escalation and severity of homicide cases. Using data from the United Nations Office on Drugs and Crime, the World Bank (2016) revealed that for 2012 and 2014, the Caribbean was well represented in the 15 nations with the most murders (homicide) in the world with Jamaica featured in the top 4 for both years.

Latin America and the Caribbean (Americas) have higher rates of homicide than any other region in the globe according to the United Nations Office on Drugs and Crime (2013). From data for 2012 published by the United Nations on Drugs and Crime, it was revealed that homicide rates in the Americas was 16.3 per 100,000 population compared to 12.5 per 100,000 in Africa; 3.0 per 100,000 in Europe as well as Oceania, and 2.9 per 100,000 in Asia. The reality is that the homicide rate in the Americas is 2.6 times more than that for the globe. Singling out those Latin America and Caribbean nations listed in Table 1, it is clear that they all have a homicide rate that is at least 3 times than for the globe. In fact, the rate for Jamaica is 6.5 times more than that for the world in 2012 and 6.4 times more in 2014. However, when the regions' (Africa, Americas, Asia, Europe, Oceania) homicide figures are disaggregated into sub-regions, the top five areas with the highest homicide rates in descending order were Southern Africa; Central America; South America; Middle Africa, and the Caribbean (United Nations Office on Drugs and Crime, 2013). United Nations

Office on Drugs and Crime's statistics revealed that homicide rates in the world is a male-phenomenon, and this is equally the same across the continents, with the exception of Asia.

The United Nations and World Bank (2007) study entitled *Crime, violence, and development: Trends, costs, and policy options in the Caribbean* noted that: "[T]he Governments of the Caribbean countries recognize the seriousness of the problem and are exploring innovative policy responses at both the national and regional levels" (United Nations & World Bank, 2007, p. 8).

Long before 2007, Caribbean governments had sought to understand and address the crime situation. Despite the plethora of empirical and constructivist studies that have been conducted in the last two decades, the homicide rates continue to rise and this has left many scholars wondering what 'the rationale for the unabated issue is?' From Robotham's (2003) perspective "probably the most intractable factor contributing to violent crime in Jamaica is the interconnecting network of criminal gangs, drug running, politics and the police" (p. 215). The matter therefore becomes even more complexed and warrants even more empirical inquiries.

RAPE

Rape, whether violent or statutory has devastating long-term and short-term effects. No other crime so forcibly invades an individual's mind and body simultaneously. In a study by Bourne, Hudson-Davis, Sharp-Pryce, Francis, Solan, and Nelson (2015), it was found that the homicide rate in Jamaica for 2012 was 40.4 per 100,000 of the population. The research team further made the case that there is similarity between two phenomena -rape and homicide epidemic in the country. Another relevant 2015 study conducted by Bourne, et al, revealed that in 2012 there were approximately 2 (1.6) rape and carnal abuse cases for every one homicide. Furthermore, the researchers revealed that over a 43-year period (1970-2012), there were only six

times in which the murder rate was greater than rape and carnal abuses -2004-to-2009. By all accounts and measurements, rape and carnal abuse occurrences have been problems that are equal to or greater than homicide since the 1970s.

POVERTY

Poverty may be seen as the insufficiencies of basic human needs as it relates to health care, food, clothing and shelter. If one's income falls below the 'the poverty line' then they are seen as living in poverty. The poverty line may be defined as the minimum level of income that will sustain an individual or families enough to have an acceptable standard of living. Definitions of the poverty line vary considerably across nations. For example, the income for a family of four in the US must be above US\$24,036. In 2011, a poverty headcount ratio of \$1.90 was used to define poverty lines in developing countries. In 2015, based on purchasing power parities, the equivalent is \$3.10. Using this as a guide, a family of four in Jamaica may be counted above the poverty line above US\$4,526. Thus, the numbers are not comparable across countries but irrespective of the disparity, some issues may remain the same.

Functionalist theorists attribute poverty to the existence of class divisions in society. This comes out of Marxism which asserts that poverty serves the interest of the wealth owning class. Gans (2003) further highlighted this theory and identified several functions that make poverty economically and socially beneficial to today's society. Economically, the poor gets the temporary, dead-end, dirty, dangerous and menial jobs for cheap labour and socially, poverty maintains a hierarchical order that allows for specific distinctions on the social ladder. Hence, Gans concluded that poverty helps to guarantee the status of those who are not poor.

Townsend (1979), in his study on poverty in the United Kingdom, agreed that the existence of

class divides is the major factor in causing poverty. His findings revealed, as he compared wide range of aspects of living standards, materially and socially, that there were levels of income below what is normal or acceptable in an increasingly affluent society. The state's intervention to provide for those who could not afford the necessities of life has only heightened the differences between the rich and the poor making a sector of the country dependent on the state for its subsistence and a group of people who completely lacked status within the society. The people affected are mainly those unemployed for long periods of time, single-parent families, the elderly and those who are either disabled or chronically ill.

Fregoso (2015) cited Herbert Spencer who presents another theoretical aspect. Spencer attributes poverty to the individual. He claims that the poor are lazy, and those who do not want to work should not be allowed to eat. He attributes poverty to bad moral character and feels that such persons should receive very little help from the state.

This school of thought may have given rise to Oscar Lewis's position that there exists a culture of poverty in societies where poverty tends to perpetuate itself from generation to generation because of its effect on children (Lewis, 1966). By the time slum children are age 6 or 7, they have usually absorbed the basic values and attitudes of their subculture and are not psychologically geared to take full advantage of changing conditions or increased opportunities which may occur in their lifetime (Dike, 2014; Sachs, 2005)

However, according to Small, Harding and Lamont (2010), several researchers have shown that there is significant variation in decision making patterns, behavioural attitudes and outcomes among people who appear to live in similar or identical conditions. What prevents many poor people from achieving middle class status is sustained material deprivation.

In 2009, 16.5% of the Jamaican population was recorded to be living below the poverty line. By 2012 the Jamaica Survey of Living Conditions (JSLC) reported that one-fifth of the Jamaican population was living below the poverty line. Poverty in Jamaica is linked to the extremes of social division. Dr. Damien King, in a lecture on emancipation and economic empowerment, the origins of the political economy of underdevelopment in Jamaica, explained that the social structure established during the plantation era, set the stage for 'economic stagnation' and continues to hold Jamaica back. He showed how the planter class governed in their own interest so that they could maintain control over the productive resources, especially land, which was the foundation of wealth and power.

The result is that most Jamaicans are excluded from economic and political opportunity. The actors may have changed, but the roles remain the same as King suggests that there has been a practice of appeasing the poor to win elections. Instead of implementing economic policies to reduce poverty and facilitate economic growth, there has been large public spending and hand-outs to get people to vote.

Anderson-Gayle (2009) highlighted the fact that poor social and economic policies could be one of many factors affecting poverty in Jamaica. The relatively high inflation rate and heavy dependence on imports and foreign currency have all contributed to the growing poverty problem developing what Lewis refers to as a culture of poverty in the Jamaican society. Although the World Bank (2016) described Jamaica as an upper middle income country with economic growth rates steadily rising, the data implies that economic growth rates remain lower than what is needed for "eradicating poverty and boosting shared prosperity" (p. 112).

Like the UK and other developed countries, Jamaica, supported by the World Bank and United Nations, has introduced different welfare

systems to assist the poor in Jamaica. The Programme of Advancement through Health and Education (PATH) is a conditional cash transfer programme aimed at delivering benefits by way of cash grants to the neediest and vulnerable in the society.

Other government initiatives through the Ministry of Labour and Social Security include the Education and Social Intervention Grant, as well as Rehabilitation, Compassionate and Emergency grants. These innovations which assist with the alleviation of poverty in the country and providing adequate employment opportunities for the masses have been designed to satisfy the empirically established poverty-homicide paradigm as supported in research done by Harriott (2004a, 2004b), Harriott and Jones (2016), Robotham (2003), and Tremblay (1995).

UNEMPLOYMENT

Unemployment occurs when individuals who are eligible to work legitimately are unable to locate jobs. Mckee-Ryan, Song, Wanberg, and Kinicki (2005) cited Jackson and Warr who asserted that being without a job for an extended period can result in the accumulation of stress, as coping resources get depleted over time. O'Brien (2013) advised that unemployment for six months or less is considered as normal whilst unemployment in excess of 6 months is labelled as dysfunctional. Mlakar (2011) asserted that over the years, more females as against males are more likely to encounter job losses. Mlakar further highlighted the high number of unemployed single mothers and the challenges they encounter when having to incur high cost for child care, whilst being off on job interviews. Mlakar emphasised the fact that young workers, ages 16 to 24, have historically encountered significantly higher unemployment than prime aged 25 to 54. This could be because most employers are not interested in training inexperienced workers. However, in periods of

recession both groups suffer greatly and youth unemployment increases substantially.

Extremera and Rey (2016), refer to studies which highlight the stress related consequences of unemployment resulting in low self-esteem, health problems, changes in social status, changes in family structure and roles and financial deprivation. Fischer, Greitemeyer, and Frey (2008) asserted that low self-esteem triggered by unemployment results in increased aggressive tendencies as a result of the frustration associated with being unemployed. Dieckhoff and Gash (2015) make references to the relationship between unemployment and social withdrawal. They further state that unemployed individuals exhibit reduced social participation due to economic stress and the associated stigma. Mlakar (2011) referred to the lasting negative impact of continuous unemployment on the lives of young individuals.

Michas, Varytimiadi and Micha (2013) further argued that economic issues impact the development of criminal tendencies. Relying on data from the European Union for period 2003 to 2012, the authors highlighted that 1% increase in unemployment connected to 0.79% increase in homicides -a significant number of premature deaths stemming from intentional violence. Although there is mixed empirical evidence and research has shown that homicides are more likely to be committed by older delinquents, Speziale (2014) acknowledged a positive correlation, between crime and unemployment.

Between the periods 1970 and 2016, unemployment rates in Jamaica were as high as 32% (in 1979) and as low as 9.9% (in 2007). There is a noted improvement in the unemployment rates between the years 2006 and 2014, indicating economic expansion and continuous increases of employment among Jamaicans (see Figure 5).

GROSS DOMESTIC PRODUCT

According to Callen (2012), "GDP measures the monetary value of final goods and services—that is, those that are bought by the final user—produced in a country in a given period of time (say a quarter or a year)" (para. 3). He continued stating that "it counts all of the output generated within the borders of a country. GDP is composed of goods and services produced for sale in the market and also include some nonmarket production, such as defence or education services provided by the government" (para. 3). The GDP, therefore, is used to indicate the economic position of a nation or its economic state. In positioning Jamaica in the world economy, the World Bank September 2016 report describes Jamaica as, "an upper middle income country with the largest population in the English speaking Caribbean" (para. 1). It continues stating that:

for decades, Jamaica has struggled with low growth, high public debt and many external shocks that further weakened the economy. Over the last 30 years, real per capita GDP increased at an average of just one percent per year, making Jamaica one of the slowest growing developing countries in the world (para. 1).

Most economists agree that the Jamaican economy is heavily dependent on services, which accounts for almost 80% of GDP. Foreign exchange is largely derived from tourism, remittances and bauxite/alumina. It is estimated that remittances and tourism each account for 30% of GDP, while bauxite/alumina exports make up roughly 5% of GDP. The bauxite/alumina sector had accounted for a larger share of GDP measurement in former years but has since been affected by the global downturn while the tourism industry and remittance flow remained resilient. The World Bank's data for 2015 shows Gross Domestic Product (GDP) for Jamaica recorded at 14.01 billion US dollars; representative of 0.02 percent of the world

economy. The economic records further reveal that GDP in Jamaica has averaged 5.66 USD Billion from 1960 until 2015. The record high of 14.75 USD Billion was achieved in 2012 and the understandable low of 0.70 USD Billion was recorded in 1960.

Undoubtedly, many threats are in store for Jamaica's economy: the high levels of crime and corruption, large-scale unemployment and underemployment, and an insurmountable debt. Invariably the government allocates a large portion of its budget to servicing this debt, severely limiting its ability to adequately finance important infrastructural and social programs. While GDP is valued in Jamaican dollars, it is also denominated into US dollars because this allows for comparison with other nations. Furthermore, foreign exchange is considered in the pricing of goods and services where GDP is concerned.

FOREIGN EXCHANGE

According to an Inter-American Development Bank (IDB) (2003) report, Jamaica's foreign exchange market was liberalized in the early nineties by seeing to the removal of exchange controls. The report stated that the Exchange Control Act was repealed in 1992, additionally, guidelines were established to ensure that foreign exchange dealers were licensed and transactions were regulated. Majority of Jamaica's international transactions are conducted in US dollars as such the local foreign exchange market activity is concentrated around this currency. The institutional framework of the Jamaican foreign exchange market has three main players, authorized foreign exchange dealers, cambios and bureau de changes.

Exchange rate is an important element in measuring the macroeconomic performance of a country. Even more potent as a determinant, is the copulation of foreign exchange rate and inflation. Increases in the prices of goods and services and fluctuations in foreign exchange rates are two important aspects which many

consider to be responsible for variances in economic growth. The situation can be seen to be more impactful in developing countries such as Jamaica, where “imported inflation” affects “domestic inflation”. Imported inflation comes about when inflation in other countries that are trading partner’s influences prices in the local market. Consequently, high inflation in the economy poses great inhibition to the nation’s economic growth prospects by eroding the real value of money. The attendant reduction in the worth of savings and investments frustrates business and investment planning; further retarding the capacity to generate wealth in the economy.

Whenever the domestic currency experiences devaluation, the prices of certain imported goods that the local consumers use may be directly affected. Existing literature that elucidates the exchange rate movements in Jamaica have primarily zoned in on the impact of exchange rate movements on inflation through import prices, which is categorized as the exchange rate pass-through (Macfarlane, 2002). An indirect influence of devaluation can be seen from the price of capital or intermediate goods imported by the manufacturer as inputs. Inherently the weakening of the exchange rate will cause the price of inputs to be more expensive, thus contributing to a higher cost of production. Manufacturers then pass on the increased costs to the local consumers. Therefore, the aggregate price level in the country increases and once these increases continue to climb, inflation is the end result. As usual, the poor are the first in the firing line to face the twin barrel of external shocks and currency crisis.

Prevailing high levels of inflation usually negatively impact low-wage earners or others on fixed income or frozen wages; all leading to worsened levels of poverty. Invariably, in an effort to seek protection from the economic onslaught, individuals and businesses often resort to foreign currencies, which may give rise to

unofficial dollarization or black markets. This is especially plausible where the legal framework and reporting requirements restrict foreign exchange transactions or where the high demand for foreign currency exists. The Bank of Jamaica has made strides in maintaining annual inflation in an effort to keep prices stable, through the creation of exchange rate stability and prudent monetary supply management. Jamaica’s floating exchange rate is largely seen as maintaining the anti-inflationary policy of the Bank of Jamaica. One of the strategies employed to boost the foreign exchange market includes an intervention by the BOJ, through the selling and purchasing of foreign exchange in a bid to mitigate against the excessive exchange rate volatility over short intervals. Disorderly exchange rate movement has been the rationale used for justifying foreign exchange rate intervention (Schwartz, 2000).

The Governor of the Bank of Jamaica has publicly argued that the Jamaican dollar was still overvalued when the exchange rate had exceeded 120 to 1. He agreed with the postulation of McPherson and Rakovski (2000) that overvaluation lowers business confidence which may contribute to deficits in investment and savings, inevitably leading to shortfalls in growth. A study by Henry and Longmore (2003) suggests that continued focus on structural reform will lead to an improvement in Jamaica’s external accounts. They attributed the structural weaknesses of the Jamaican economy to factors such as the type of trading arrangements that were available, limitations in the scope and amount of research and poor marketing support, crime and violence as well as the overall quality and work ethic of the labour force.

It is therefore of utmost importance to explore if the structural weaknesses of the Jamaican economy are caused by crime and violence, particularly as evidenced by the homicide rate or if the homicide rate may be a contributory factor. It may very well be a classic case of chicken or egg or possibly the chickens coming home to

roost. Either way, there is little doubt that both high foreign exchange rates and high homicide rates by their very definitions and antecedents, will negatively impact the already weakened Jamaican society.

In summary, the literature review focused comprehensively on the various macroeconomic indicators as well as homicide and rape that are used in this study. Clearly, the empirical evidence has shown that the macroeconomic environment has some influence on intentional homicide and rape in a nation. Such evidence is used to argue a case for their inclusion in a discussion on homicide and rape. In fact, there are plethora of studies which have supported a poverty-homicide paradigm, and this thinking has been used to formulate policies. For decades, Jamaican academicians have supported this thinking and as such it has been the driving force behind many social intervention programmes. This research questions such a paradigm as clearly the problem of homicide and other major crimes have increased exponentially in the past two decades.

METHODS AND MATERIALS

RESEARCH PROCESS

Scientific inquiries on social issues have been carried out by different researchers and some methodologists have joined the discourse to provide an understanding of how the research process can be accommodated (Babbie, 2007; Balashov & Rosenberg, 2002; Berg, 2001; Boxill, Chambers & Wint, 1997; Bryman, 2001; Crotty, 2005; Gubrium & Holstein, 2001; Neuman, 2006). Of all the methodologists and social researchers who sought to examine social phenomena, Crotty's (2005) work summarized the research process in a simple diagrammatic and systematic manner as well as provides a comprehensive description of each component in a research process. He noted that the research process can be classified into four schemas (i.e. four questions which must be answered in examining

social phenomena), namely (1) methods, (2) methodology, (3) theoretical perspective and (4) epistemology -Figure 6. Crotty (2005) contended that a research is guided by "the choice of a methodology and method. Of which, the chosen methodology and method clearly depicts the set of assumptions the researcher has about reality" (p. 2).

Crotty (2005) noted that the schema of the research process is simply not a unidirectional model. He points out that the research process begins with an epistemology followed by a theoretical perspective, methodology and method. Embedded in this schema is process of carry out a research and there is stringency to the direction that must be followed. Whether a research is quantitative (empirical/objective) or qualitative (subjective), the general schema is the same and the entire apparatus must be followed in order to execute an effective research. Wanting to establish truths, the researchers have chosen an empirical approach to the study of crimes in Jamaica and macroeconomic factors that influence them.

Source: Michael Crotty (2005). Four elements of the research process, p. 4

Empiricism is responsible for a plethora of germane and critical discoveries that have aided humans' existence and these have all been under the area of quantitative research. According to Davies (2003) empiricism is:

The belief that true knowledge comes only from sensory experience. It means that knowledge is not the same as belief or opinion. It is not the same thing as certainty, no matter how passionately felt. The emphasis upon experience as the source of knowledge means that other possible sources are slighted or rejected. (p. 5)

Hence, knowledge is derived from empirical fact or experience which speaks to the issue of hypothesis testing that is a feature of quantitative research. Even so, it fails to explore

potent things about people which emerged using qualitative research. People are social beings which means that their behaviours are unpredictable, fluid, and while some generalizability exists therein, the “whys” (meanings) are still unasked with the use of empirical inquiry (or objectivity and measurability). For this study, therefore, an empirical approach was used as it would facilitate the development of an empirical-predictive model for homicide rate, poverty rate and rape rate in Jamaica. The present study sought to generally understand a phenomenon by testing hypotheses and using conceptualization and measurements, large volume of secondary data, advanced statistical data analyses, and model formulations.

RESEARCH DESIGN

This study employed a predictive research design (Creswell, 2012). Such a design was selected as it allowed for the construction of models or functions that can be used to predict outcome. This empirical perspective warrants the use of large volume of data, precise measurement of variables and advanced statistical techniques. As a result, this study used secondary panel data collected and published by various government departments in Jamaica as well as the International Monetary Fund and the World Bank.

In Jamaica, there are different government agencies or departments that are responsible for collecting, collating, analysing, calculating, and forecasting information in order that the government can formulate policies and implement programmes to address issues within the society. The Planning Institute of Jamaica (PIOJ) and the Statistical Institute of Jamaica (STATIN) are responsible for framing, collecting, and collating data on poverty rates, unemployment rates, and intentional homicide rates along with other population characteristics and other macroeconomic indicators. Both

Institutions have been collecting data for the Jamaican government for some 5 decades. Although the STATIN was formed on April 9, 1984, the agency operated in the Department of Statistics-which was formerly called the Bureau of Statistics that began operating in 1946 (STATIN, 2014). The Planning Institute of Jamaica was formerly called the Central Planning Unit and it was established in 1955 to aid the government with information on economic and social issues (PIOJ, 2008-12). For this paper, data on homicide, poverty and unemployment rates were collected from a publication entitled *Economic and social survey* published by the PIOJ (PIOJ, 1960-2015). The JSLC, which is a modification of the World Bank’s Household Living Standards Survey, is an annual household survey that collects data from Jamaicans on health; education; and general living conditions (PIOJ, 2012; World Bank, 2016a, 2016b). The JSLC began collecting data on the aforementioned issues since 1989 and both PIOJ and STATIN use the collected data to compute poverty rates for the nation as well as sub-areas. From the JSLC, data were collected on poverty rates (PIOJ & STATIN, 1989-2015). Furthermore, intentional homicide is collected by the Statistics department of the Jamaica Constabulary Force (JCF) and published in the Economic and Survey of Jamaica. Data on homicide was collected from Economic and Survey of Jamaica and verified by the Statistics Department of the JCF.

The Bank of Jamaica (BoJ) is responsible for collecting, collating and calculating macroeconomic indicators such as inflation rate, exchange rate and GDP on the behalf of the government. Those data are published in Economic Reports, Statistical Digest, and from the World Bank’s website (BoJ, 1960-2015; World Bank, 2016c).

The data for this paper is secondary panel data collected from the aforementioned agencies and institutions for the period 1970-to-2015. However, Jamaica began collecting data on poverty and other household issues since 1989 by

way of the modified household living standards survey and so the statistical analyses which were done with this variable were for 26 years (or data points -1989-2015).

OPERATIONAL DEFINITIONS

RAPE: According to Bishop (2008), rape occurs “when a man has sexual intercourse with a woman without her consent, that is, by fear, force or fraud” (p. 202). Bishop contended that “a man may be indicted for rape of any female of any age” (p. 202). Carnal abuse is, therefore, different from rape.

CARNAL ABUSE: According to Bishop (2008), “carnal abuse is when a male has sexual intercourse with a female that is under the age of consent, which is 16”. Hence, rape and carnal abuse are coalesced for this research, which explains the rape and carnal abuse rate. Rape and carnal abuse rate is the summation of all reported rapes and carnal abuse cases on an annual basis divided by the mid-year population times k, where k denotes a constant (i.e., 100,000).

Homicide (murder): An individual intentional killing a human being.

$$\text{Rape and Carnal abuse rate: } \frac{\text{Total number of people recorded as raped or carnally abuse for time period } t}{\text{Mid – Year population for the society in time period } t} \times 100,000$$

$$\text{Homicide rate: } \frac{\text{Total number of people recorded as being intentionally killed for time period } t}{\text{Mid – Year population for the society in time period } t} \times 100,000$$

STATISTICAL ANALYSES

For this panel data, the data were stored, retrieved and analyzed using the Statistical Packages for the Social Sciences (SPSS) for Windows version 24.0. Descriptive statistics were performed on the data as well as percentages and frequency distributions. Ordinary least square (OLS) regression was employed to determine factors that explain 1) intentional homicide rate, 2) poverty rate and 3) rape and carnal rate in Jamaica. Ordinary least square regressions and multivariate analyses were utilized to determine explanatory factors. Statistical significance was determined a p-value less than or equal to five percentage points (≤ 0.05) -two-tailed. In order to ensure that all the assumptions of OLS were maintained in this study, the researcher examined 1) autocorrelation, 2) linearity and 3) collinearity (Lewis-Beck, 1980; Mamingi, 2005). The general standards employed in this work, which raise concern about multicollinearity, are 1) Durbin-Watson test and 2) correlation coefficients. Where Durbin-Watson is between 1.5 and 2.5, there is no problem with multicollinearity (Mamingi, 2005). For this study, although there

were moderate to strong bivariate correlations with selected variables, there was no problem with multicollinearity with each model as Durbin-Watson was lies between 1.5 and 2.5. In addition to the aforementioned conditions, the researchers also chose to evaluate the correlation coefficients as they provide another aspect to the examination of multicollinearity. Hence,

Where collinearity existed ($r > 0.7$) the variables have been entered independently into the model to determine which of those should be retained during the final model construction. The final decision regarding whether or not to retain variables were based on the variables’ contribution to the predictive power of the model and its goodness of fit. (March & Bourne, 2011, p. 262)

Four models were tested (hypotheses) for this paper. They (models) are expressed in equations 1-5:

HYPOTHESIS ONE -MODEL 1

H₀: Intentional homicide rates in Jamaica is not influenced by exchange rate; inflation rate; GDP

per capita, unemployment rate, and rape and carnal abuse rate

$$H_t \neq f(ER_t, I_t, GDP_t, U_t, R_t) \dots\dots\dots[1]$$

Where H_t represents intentional homicide rate per 100,000 population in time period t ; ER_t is the exchange rate (Jamaican and US \$) in time period t ; I_t denotes the inflation rate in time period t ; GDP_t symbolizes Gross Domestic Product (in US\$) in time period t , U_t means unemployment rate in t period t ; and R_t denotes rape and carnal abuse rate per 100,000 population; $t=1970$ -to-2015

HYPOTHESIS TWO -MODEL 2

H_0 : Poverty rates in Jamaica is not influenced by exchange rate; inflation rate; GDP per capita, unemployment rate, and rape and carnal abuse rates.

$$P_t \neq f(ER_t, I_t, GDP_t, U_t, R_t) \dots\dots\dots[2]$$

Where $t=1989$...2015

HYPOTHESIS THREE -MODEL 3

H_0 : Intentional homicide rates in Jamaica is not influenced by exchange rate; inflation rate; GDP per capita, unemployment rate, the poverty rate and rape rate (R_t).

$$H_t \neq f(ER_t, I_t, GDP_t, U_t, P_t, R_t) \dots\dots\dots [3]$$

where P_t denotes poverty rate in time period t , and $t=1989$ -to-2015

HYPOTHESIS FOUR -MODEL 4

H_0 : Rape and carnal abuse rates in Jamaica is not influenced by exchange rate; inflation rate; GDP per capita, unemployment rate, intentional homicide rates and poverty rate.

$$R_t \neq f(ER_t, I_t, GDP_t, U_t, H_t, P_t) \dots\dots\dots[4]$$

HYPOTHESIS FIVE -MODEL 5

H_0 : Intentional homicide rates in Jamaica is not influenced by exchange rate; inflation rate; GDP per capita, unemployment rate, and poverty.

$$H_t \neq f(ER_t, I_t, GDP_t, U_t, P_t) \dots\dots\dots[5]$$

RESULTS

Table 2 presents descriptive statistics for selected macroeconomic indicators (exchange rate; inflation rate; GDP per capita (in US dollars); unemployment rate; poverty rate) and intentional homicide rate per 100,000 population as well as rape and carnal abuse per 100,000 mid-year population for Jamaica, using data from 1970-to-2015. Over the last four and one-half decades in Jamaica (1970-2015), on average, intentional homicide rate stood at 40.4 ± 13.1 per 100,000 mid-year population compared to 50.5 ± 8.2 per 100,000 mid-year population. It can be deduced from the data that substantially more people are raped and carnally abused in Jamaica compared to those whom are intentionally killed by another. For the period (1980-to-2015), the poverty rate averaged double-digit ($21.3\% \pm 7.5\%$, 95%CI: 18.2%-24.3%) and this is similar for the inflation rate, for the period 1979-to-2015, $17.6\% \pm 16.2\%$, 95%CI: 10.9%-24.3%.

Table 3 holds information on the bivariate correlation between many combinations of macroeconomic indicators and intentional homicide rate as well as rape and carnal abuse rates in Jamaica. All of the four macroeconomic indicators-Exchange rate (conversion rate of US\$1 for Jamaican dollars); inflation rate; GDP per capita (in US\$); and unemployment rate-statistically correlated with both poverty rate and intentional homicide rates in Jamaica. In fact, all the macroeconomic indicators strongly influenced homicide rates in Jamaica, with both poverty and unemployment having an inverse effect ($r_{xy} = -0.759$ and $r_{xy} = -0.746$ respectively) and the opposite is the case for the exchange rate and GDP per capita ($r_{xy} = 0.808$ and $r_{xy} = 0.860$ respectively). The reality is, homicide rate and poverty rates are negatively correlated in Jamaica ($r_{xy} > 0.7$), with unemployment and poverty rates having a direct influence on each other ($r_{xy} = 0.595$). Based on the correlation coefficient,

the bivariate correlation is a relatively moderate one with the inflation rate positively as well as strongly impacting on the poverty rates in Jamaica ($r_{xy}=0.716$). Furthermore, a moderately negative statistical relationship exists between unemployment rate, rape, and carnal abuse rate ($r_{xy}=-0.530$, $P=0.01$), indicating that there is an association with economic prosperity which is supported by the direct correlation between rape and carnal abuse, and GDP per capita ($r_{xy}= 0.596$, $P=0.01$). Of the selected macroeconomic indicators, no bivariate statistically correlated emerged between poverty and rape and carnal abuse rates in Jamaica($P=0.808$), and inflation and rape and carnal abuse rates ($P=0.919$).

HYPOTHESIS ONE -MODEL 1

H_0 : Intentional homicide rates in Jamaica is not influenced by exchange rate; inflation rate; GDP per capita, unemployment rate, and rape and carnal abuse rate

$$H_t \neq f(ER_t, I_t, GDP_t, U_t, R_t) \dots\dots\dots[1.1]$$

Where H_t represents intentional homicide rate per 100,000 population in time period t ; ER_t is the exchange rate (Jamaican and US \$) in time period t ; I_t denotes the inflation rate in time period t ; GDP_t symbolizes Gross Domestic Product (in US\$) in time period t , U_t means unemployment rate in time period t ; and R_t denotes rape and carnal abuse rate per 100,000 population; $t=1960$ -to-2015

HYPOTHESIS TWO -MODEL 2

H_0 : Poverty rates in Jamaica is not influenced by exchange rate; inflation rate; GDP per capita, unemployment rate, and rape and carnal abuse rates

$$P_t \neq f(ER_t, I_t, GDP_t, U_t, R_t) \dots\dots\dots[2.1]$$

Table 3 presents selected macroeconomic indicators, and rape and carnal abuse rate per 100,000 population and their likely influence or not on 1) intentional homicide rate per 100,000

population and 2) poverty rate. Both models are statistically significant ones wherein factors influencing homicide account for 76.5% of the variance ($F=12.404$, $P < 0.0001$), with the same set of factors accounting for 69.5% of the variance ($F=8.595$, $P < 0.0001$) -Annex Table 1. It can be deduced from statistics (Table 3) that all the selected macroeconomic indicators and rape or carnal abuse rate influence both homicide and poverty rates in Jamaica and as such the null hypotheses (1 and 2) are rejected. The models for homicide and poverty rates in Jamaica are encapsulated in Equations 1.3 and 2.3:

$$H_t = \beta_0 + \beta_1ER_t + \beta_2I_t + \beta_3GDP_t + \beta_4U_t + \beta_5R_t) \dots\dots\dots[1.2]$$

Where β_0 is the constant and β_{1-5} are the coefficients for the particular independent factor

$$H_t = 76.2 + 0.159ER_t - 0.073I_t + 0.0001GDP_t - 3.634U_t + 0.138R_t \dots\dots\dots[1.3]$$

The constant 76.2 indicates that when all the factors are zero, people will intentionally still kill each other in Jamaica and that the exchange rate, GDP per capita and rape will positively influence or increase the number of people who are intentionally killed. On the other hand, inflation and unemployment are inversely correlated with intentional killings (or homicide rates in Jamaica. While collectively the model is a statistically significant one, only unemployment was statistically correlated with intentional homicide rates in Jamaica.

$$P_t = \beta_0 + \beta_1ER_t + \beta_2I_t + \beta_3GDP_t + \beta_4U_t + \beta_5R_t) \dots\dots\dots[2.2]$$

Where β_0 is the constant and β_{1-5} are the coefficients for the particular independent factor

$$P_t = 10.57 + 0.069ER_t + 0.198I_t - 0.003GDP_t + 0.974U_t + 0.003R_t \dots\dots\dots[2.3]$$

Equation [2.3] is the function that models selected macroeconomic indicators and rape as factors of the poverty rate in Jamaica, using data from 1989-to-2015. It can be deduced from the model that if all the factors are zero, therefore not existing, rape and carnal abuse will still be

occurring in Jamaica and that this would be 10.6 per 100,000 population. However, only one factor is inversely associated with poverty. Although the model is a statistically significant, when disaggregated, only unemployment singly was associated with poverty rates in Jamaica.

HYPOTHESIS THREE -MODEL 3

H₀: Intentional homicide rates in Jamaica is not influenced by exchange rate; inflation rate; GDP per capita, unemployment rate, the poverty rate and rape rate (R_t)

$$H_t \neq f(ER_t, I_t, GDP_t, U_t, P_t, R_t) \dots\dots\dots[3]$$

where P_t denotes poverty rate in time period t, and t=1989-to-2015

A univariate analysis of selected macroeconomic indicators and rape rate was done to determine their influence on intentional homicide in Jamaica as reflected in Table 5. Based on the fact that poverty data began in 1989, the analysis for this was a 25 years' time period (1989-to-2015). The overall model is a statistically significant one (F=14.354, P < 0.0001). This means that the five macroeconomic indicators-exchange rate, GDP per capita, inflation rate, unemployment rate, and poverty rate-and, rape and carnal abuse influence homicide rates in Jamaica and that those factors have a very strong correlation (R=82.7% or adjusted squared R=77.0). As such, the null hypothesis is rejected. However, on further examination, only two factors individually influence intentional homicide rates in Jamaica and they are poverty (P=0.021) and unemployment rates (P=0.018), with both accounting for 53.5% of the variability in homicide rates. Using the unstandardized B value, it is clear that both unemployment and poverty rates negatively correlate with intentional homicide rates in Jamaica. This suggests that when poverty or unemployment rates are high, intentional homicide rates are low and vice versa-or that people are more likely to intentional kill other persons in Jamaica in

periods when they are employed and not in poverty. The table shows that in Jamaica, rape and carnal abuse are contributing to increased homicides and that the exchange rate is contributing to rape and carnal abuse. Economic growth or standard of living is inversely correlated with homicide, indicating that economic downturn is positively related to increased homicide and the opposite is equally the case. So the new model is expressed in formulas 3.2 and 3.3.

$$H_t = \beta_0 + \beta_1ER_t + \beta_2I_t + \beta_3GDP_t + \beta_4U_t + \beta_5R_t + \beta_6P_t \quad [3.2]$$

Where β_0 is the constant and β_{1-6} are the coefficients for the particular independent factor

$$H_t = 84.5 + 0.214ER_t + 0.083I_t - 0.002GDP_t - 2.869U_t + 0.140R_t - 0.786P_t \dots\dots[3.3]$$

HYPOTHESIS FOUR -MODEL 4

H₀: Rape and carnal abuse rates in Jamaica are not influenced by exchange rate; inflation rate; GDP per capita, unemployment rate, intentional homicide rates and poverty rate.

$$R_t \neq f(ER_t, I_t, GDP_t, U_t, H_t, P_t) \dots\dots\dots[4]$$

HYPOTHESIS ONE -MODEL 5

H₀: Intentional homicide rates in Jamaica are not influenced by exchange rate; inflation rate; GDP per capita, unemployment rate, and poverty.

$$H_t \neq f(ER_t, I_t, GDP_t, U_t, P_t) \dots\dots\dots[5]$$

The influence of selected macroeconomic indicators on homicide and rape rates in Jamaica is captured in Table 6. All five macroeconomic indicators-exchange rate; inflation rate; GDP per capita; unemployment rate, and poverty rate-collectively account for 82.3% of the variability in homicide rates (adjusted squared R=77.6%; F=17.611, P<0.001) and 39.5% (adjusted squared R=23.6%; F=2.482, P=0.068) of variability in rape rate in Jamaica. In fact, unemployment and poverty rates account for 53.7% of the variance in

intentional homicide rates in Jamaica, with the GDP having the least effect on the homicide. GDP per capita, unemployment and poverty rates are inversely correlated with homicide rates and the exchange rate as well as inflation having a positive effect on intentional homicide rate in Jamaica. While jointly the five macroeconomic indicators have an impact on homicide, when unpacked singly, only unemployment and poverty have a statistical influence. Additionally, the five macroeconomic indicators account for 39.5% of the variability in rape and carnal abuse rates in Jamaica, only unemployment rate has a statistical influence on the rape and carnal abuse rates. On further examination of the B value, the contribution of poverty to rape in Jamaica is miniscule. A crucial finding is that unemployment accounts for 33.2% of the explanatory power of the rape and carnal abuse rate model. More information on this correlation of Table 5 is presented in the Annex (Annex Table 2).

$$R_t = \beta_0 + \beta_1 ER_t + \beta_2 I_t + \beta_3 GDP_t + \beta_4 U_t + \beta_5 P_t) \dots [4.2]$$

Where β_0 is the constant and β_{1-5} are the coefficients for the particular independent factor

$$R_t = -7.62 + 0.093ER_t + 0.007I_t + 0.003GDP_t + 3.160U_t + 0.006P_t \dots [4.3]$$

It should be noted here that poverty has a confounding effect on GDP as when it was not included in the model (i.e. Model 1), the correlation between homicide rate and GDP was a positive one which changed with the introduction of poverty on homicide rates (see Table 6). Furthermore, it can be noted that all the selected macroeconomic factors positively impact the rape rate in Jamaica. Such findings mean economic marginalization is directly influencing the rape phenomenon in the Jamaican society.

DISCUSSION

Historically, major crimes homicide (or murder), robbery, larceny, rape, etc. have plagued all

societies. Such a perspective was echoed by Emile Durkheim as he believed that crime is a natural (or normal) part of human society (Durkheim, 1895/1964; 1897/1951) theory of homicide (see also, Dicristina, 2004). Durkheim's perspective was that crime is needed the evolution of humanity, which suggests that it is a needed good for humankind. Since the aforementioned sociological position, some people have readily and easily accepted this explanation to the crime epidemic in many societies. There is no denial that major crimes, particularly homicide, have been noted in all societies dating back to pre-civilization. The King James Version of the Holy Bible gave an account of the first act of intentional homicide in human existence and this has continued over the ages. In contemporary society, it is not surprising, therefore, that major crimes such as homicide and rape are noted high on the radar of crime statistics. Using data for 1999-2005, the United Nations and World Bank (2007) showed that the Caribbean recorded the highest homicide rate in the world, with the developing nations, most of the top 8 nations with the most intentional homicide. Another fact stated by the United Nations and World Bank is:

According to the latest available data from the UNODC's Crime Trends Survey (CTS), which is based on police statistics, three of the top ten recorded rape rates in the world occur in the Caribbean. All countries in the Caribbean for which comparable data are available (Bahamas, St. Vincent and the Grenadines, Jamaica, St. Kitts and Nevis, Dominica, Barbados, and Trinidad and Tobago) experienced a rate of rape above the unweighted average of the 102 countries in the CTS. (United Nations & World Bank, 2007, p. iv).

It is evident from the literature in criminology, sociology, anthropology and history that the Caribbean was established on mass killings of the indigenous peoples and Blacks from West Africa. The reality is, the plantation owners would intentionally kill disobedient African slaves as well as rape those who were out of line in order

to align them with the social systemplantation economy (Higman, 2005; Zahedieh, 1986). Historically and culturally, the Jamaican society is no stranger to intentional homicide and rape (Simmonds, 2004; Higman, 2005; Zahedieh, 1986). Some ascribe the crime pandemic in Jamaica to politics. In fact, there is enough evidence that there is a marriage between crime and politics in Jamaica and that this extends to other Caribbean nations. In an ethnography study by Horace Levy, Chevannes who wrote the 'Forward' contended that "Jamaica is a scene of escalating violence. In 1980, the year when political violence claimed the lives of 600 combatants and innocents, and other violence another 289, appeared as unique" (Levy, 1996, x). In grappling with a solution to the crime phenomenon in the Caribbean, academic conferences have been conducted and a Five-Caribbean nation ethnographic study which was funded by the World Bank and conducted by Horace Levy (1996); yet we at this very point have more homicide and rape than in the 1990s (Bourne, Hudson-Davis, Sharpe-Pryce, Solan, Nelson, Smith, ... Francis, 2015).

Many efforts, initiatives and social programmes have been implemented since the 1990s and yet the homicide and rape phenomena have exponentially escalated in the Caribbean and Latin America. Even if crime is a normal part of society, as stated by Emile Durkheim, people have a right to life and this means that we need to understand the issues surrounding the matter in order to alleviate the situations. Is it that major crimes are so normal a part of society that there can be no solution? Or, is it that we have continued to examine the matter from the same paradigm for too long without evaluating the correctness of thinking on the matter? The reality in the Caribbean is that anthropologists, sociologists, demographers and criminologists have empirically examined the crime pandemic (Ellis, 1991, 1992; Figueroa, & Sives, 2003; Francis, Kirton, & Elvy, 2001; Gray, 2003, 2003b;

Harriott, 2003; 2004a, 2004b, 2004c; Headley, 1994; Leslie, 2010; Levy, 1996; Robotham, 2003) and it appears that something is wrong as the matter continues unabated. An empirical paradigm that exists in criminology and sociology is that poverty causes crime (Trembley & Craig, 1995; Robotham, 2003; Samenow, 2014; The Economist, 2014). A study by Sariaslan, Larsson, D'Onofrio, Långström and Lichtenstein (2014) casts some doubt on this widely accepted paradigm and one that is used to formulate social policies including in Jamaica. The current study broadens the perspective, refutes the long established myth about poverty and intentional homicide and supports the theory of the direct statistical correlation between rape and poverty.

For decades, there has been an established paradigm that poverty causes crime and even in the Caribbean this view has been accepted by scholars (Robotham, 2003; Ellis, 1992). This perspective goes back to the 'culture of poverty paradigm' which has been formulated to explain why some people are poor (Lewis, 1966; Gorski, 2008; Dike, 2014; Sachs, 2005). The culture of poverty paradigm was framed to explain poverty and Gorski argued that it is more culture of classism than anything else. Although the initial culture of poverty paradigm was not extended to explain homicide in the poor community, in contemporary discourse of homicide it has been included by anthropologists (like Don Robotham, 2003); political scientists (Anthony Harriott, 2004; Ellis, 1992) and the United Nations as well as the World Bank (2007). If the poverty-homicide paradigm is nothing but a 'culture of classism', why have all the empirical inquiries that have used this paradigm not adequately addressed the matter? The answer is simple; the poverty-homicide paradigm is wrong as this research has proved that poverty is inverse correlated with homicide. The poverty-homicide paradigm, which emerged from the culture of poverty thinking, is more a cultural interpretation that is wrapped in prejudices than measurable evidence because

poverty does not make you a murderer as is established by this work. The current finding is in keeping with President Bush's, former President of the United States, statement that "poverty doesn't cause terrorism. Being poor doesn't make you a murderer. In Afghanistan, persistent poverty and war and chaos created conditions that allowed a terrorist regime to seize power" (Sachs, 2005, p. 335). The institutional structure and the social system are overlooked for outcome and this is why the poverty-homicide paradigm has flourished for decades. A profound statement was made by a Caribbean political scientist, Professor Brian Meeks, that speaks to the real issue in Caribbean societies, which is "while it is true to say that members of the 'Plantation School' never ceased critical engagement [in the Caribbean], there has been a resurgence in recent years, which is important both historically and theoretically" (Meeks, 2000, p. 21). It has been denied as the root cause of the problem in the Caribbean for the culture poverty theory, when the institutions and social structure has somewhat remained as it were during slavery. Therefore, the poverty-homicide paradigm is a fallacious philosophy that is not supported by current empiricism as poverty is inversely correlated with homicide and this culture classism must be stopped in order to address the homicide pandemic in the Caribbean region.

There is an urgent need to examine any paradigm that seeks to explain a phenomenon and has not done so. The reality is, the general poverty-crime paradigm is waning and time has come for us to broaden the perspective. Durkheim (1961) wrote:

To be autonomous means, for the human being, to understand the necessities he has to bow to and accept them with full knowledge of the facts. Nothing that we do can make the laws of things other than they are, but we free ourselves of them in thinking them, that is, in making them ours by thought. (p. 91)

Embedded in Durkheim's perspective is the normalcy of crime in a society; but that he looked at the symptom and not the cause. There can be no denial that crime is a staple in many societies, across the ages, and that this has been extensively studied by various scholars; but many of them have examined the unit of analysis and not the system. Jamaica is among names referred to when the issue of intentional homicide comes up for discussion, and rightfully so because of the high rates of murders. Furthermore, statistics from UN and the World Bank, 2007, revealed that the Dominica Republic recorded approximately 30 murders per 100,000 of its population in 2005, and that this was greater than that in Trinidad and Tobago. Jamaica as omitted from the statistics and this study updates the issue by revealing that for the same time, intentional homicide rate in Jamaica was 63.1 per 100,000 population (see Appendix Table 1). This study concurs with Gray's that a nation's economy is accounted for the social state it is in. To support such a perspective, the current empirical findings offer many insights into the matter. The macroeconomic indicators (GDP per capita; exchange rate; inflation rate; unemployment rate and poverty rate) account for 82.3% of the variability in intentional homicide rates in Jamaica and that unemployment and poverty explain 53.7% of the variability. It should be noted here that economic deprivation has a significant impact on social deviance such as rape and homicide rates, which extends beyond poverty-institutional and structural conditions.

Irrespective of the argument forwarded about poverty, this variable is inversely related to homicide but positively correlated with rape. This means that poverty is not stimulating a desire to kill or carry out such actions; but it is making people sexual predators. However, when people are suffering as it captured by unemployment; they will become sexual predators. This variable is not increasing the tendency to intentionally kill other human beings; but the general economic

hardship does make people into socially deviant beings-becoming rapists and murderers.

The macroeconomic indicators encapsulate the structural factors in a society. The perspectives pertaining to structural factors posit that capitalism produces certain conditions which encourage poverty. Beeghley (2000) believes that the effect of economic structure, irrespective of individual effort such as hard work, and skill ensures that majority of people are poor. Functionalist theory, labour market theories, and the social exclusion perspective shed more light on the structural causes of poverty. Poverty is believed to be an important social, economic and political function for society in general, and for the middle and wealthy classes in particular (Davis and Moore, 1945).

Those scholars overemphasize poverty when the matter is the total macroeconomic environment and not solely poverty that is accounting for the state of affairs in Jamaica. Nevertheless, this work concurs with the concept literature that there is a social structure that is not only creating poverty; it is equally responsible for the social conditions such as homicide and rape. Two well-known Jamaican dancehall artistes (Rodney 'Bounty Killer' Pryce and Desmond 'Ninjaman' Ballentine) on January 18, 2017 have also come out in support of the poverty-crime paradigm. It is preponderantly clear that their perspectives have been fashioned by the cosmology of the culture of poverty philosophy (Francis, 2017). It is a worldview that has been taught by Oscar Lewis (1966). According to Mr. Pryce:

the mother and the parent of crime is poverty. And until the Government starts to battle poverty the right way we are always going to be looking up criminals...Taking criminals off the street is a good thing, but there are things in society that lead and motivate [others] to go on the street as well, and we have to defuse those.(as cited in Francis, 2017, p. 4)

Mr. Ballentine remarked: "the first step in getting rid of [solving] crime is to make your police more independent. Unuh [You] need fi [to] set up something where the police become independent" (as cited in Francis, 2017, p. 4).

On careful examination of both deejays' perspectives, it is not poverty that is the crux of the crime pandemic in Jamaica; but structural and institutional conditions are the factors that influence the outcome of poverty and crime. Undoubtedly, the poverty-crime philosophy has seeped into the consciousness of people that they identify the outcome as the cause and the causes are overlooked as it designed by the social structure. Using over two decades of data, this research revealed that poverty is inversely correlated with poverty and it should not be ascribed the role of positive indicator of homicide. However, it can be so done with rape and carnal abuse cases. As such, the poor should not be blamed for the homicide pandemic in the Jamaican society; but that it accounts for the rise in rape and carnal abuse.

The old paradigm of poverty causing homicide must be done away with as the empirical evidence fails to support such a reality. The normal science of the poverty-homicide paradigm has been promulgated by the United Nations, the World Bank and many scholars to include some from the Caribbean (Fajnzylber, Lederman, & Loayza, 2002; Levy, 1996; Robotham, 2003; Tremblay, 1995; United Nations (UN) & World Bank, 2007; World Bank, 2004). With over three decades of empirical and qualitative studies on homicide in the Caribbean, something appears to be a mystery as to why intentional homicide rates continue to rise irrespective of the social intervention programmes instituted. Instead of examining the systematic conditions in a society like Jamaica, deficit theorists have been propagating a "culture of classism" which ignores systemic conditions to poverty (Gorski, 2008) as well as homicide.

This paper, using data from 1989, found an inverse statistical correlation with homicide rate and poverty as well as unemployment rate and homicide rate. A critical finding that emerges from this work is that the homicide phenomenon is a collective macroeconomic issue-systemic conditions or the social structure. It can be deduced from the present work that economic deprivation which is a structural issue accounts for the social environment in Jamaica. The perspective for this is embodied in the fact that inflation and the exchange rate which can be used to determine the social hardship of people are positively correlated with both intentional homicide and rape rates in Jamaica a retaliatory mechanism to the social hardships in society.

Marx's Conflict theory offers a comprehensive understanding of what is unveiling in Jamaica. The social system is responsible for economic deprivation, marginalisation and low opportunities offered to some people. It should be understood that while an individual may not be poor because of the established definitions, he/ she may be socially excluded from many of the social and political opportunities of society. All explanations grounded in conflict theory assume that stratification stems from a fundamental conflict between the needs and interests of the powerful, or "haves," in society and those of the weak, or "have-nots" (Kerbo, 2012). A Caribbean sociologist and an economist have stated that there are some structural issues in Jamaica and that are accounting for social exclusions. Beckford (1999), using data on Jamaica and other Caribbean nations dating back to slavery, found that there was political and economic exclusion of the general populace (see also Marshall, 2007). Beckford concluded that there is a deliberate structural system that keeps the masses economically deprived and that this has caused persistent poverty (Beckford, 1999; Rapley, 2002).

There appears to be some truth to Beckford's claim as Derek Gordon (1987), a Caribbean

sociologist, using GINI coefficients—a statistical term that deals with the degree of variation in values in the evaluation of income inequality—from the 1960s to the 1980s, found that this was almost the same inspire of the exponential rise in income. GINI coefficient measures the income distribution gap between the wealth and poor. The findings, therefore, highlight the fact that social mobility has remained about the same in 2 decades in spite of the growth in per capita income in the Jamaican society. Simply put, the wealthy had remained affluent and the poor, destitute as before. The United Nations refers to this as the predicament of globalization-unprecedented levels of income and wealth and widened inequality between the rich and the poor (United Nations, 2005; Ferranti, Perry, Ferreira, & Walton, 2004). The present work has found that the collective macroeconomic environment is influencing intentional homicide and rape rates. Hence, the social system is channelling people into being human predators in order to survive. Such reality that emerged from the findings unequivocally show that the homicide and rape pandemic are multi-dimensional issues and that merely isolated, poverty and/or unemployment will not allow for effectively correct solutions to the problem. For decades, policy makers and scholars have been substantially concentrated on poverty and unemployment so much so that they have completely missed the issues.

An extensive search of the literature unearths a preponderance of works on the poverty-homicide paradigm, with only two studies having refuted or challenged the established paradigm (March & Bourne, 2011; Sariaslan et al., 2014). The reality is, neither poverty nor unemployment is accounting for increased homicide and that this requires us to examine intentional homicide through a different set of lens. In Jamaica, both intentional homicide and rape rates are explained by a set of macroeconomic indicators. Those indicators are not solely economic issues as they

parcel the social structure or social system. It is clear from the current work that the social structure or system is responsible for the state of homicide and rape in the Jamaican society; yet, it is overlooked as a unit of analysis for macroeconomic indicators such as GDP per capita, exchange rate, inflation, unemployment, and poverty. The macroeconomic indicators are the mere unit of analysis for the social system that is overlooked, and people have for decades focused on the unit of analysis and not the system. The present findings bring this to the forefront of the discussion as units of analyses (i.e., the macroeconomic indicators) evaluate the social system and this is never the center of discussion when social deviance comes up. Like Marx, this paper forwards that the focus should be on the system or social structure that creates the deprivation, marginalization and exclusion for the people and not the units that measure such realities (see also, Jamaica Observer, 2012; Wolfensohn, 2005; Beeghley, 2000; Davis & Moore, 1945).

Politics is merely an aspect of the social system and it should not account for the majority of the blame for the crime pandemic in Jamaica or the wider developing nations as was forwarded by Don Robotham (2003). The fact is the legacy of the plantation system has contributed and explains what currently obtains in those societies. During slavery, the social system was structured to exclude, isolate, marginalize and retard social and political opportunities for the masses (Beckford, 1999; Marshall, 2007; Simmonds, 2003). From this research, the culture of poverty paradigm as well as the poverty-homicide paradigm is refuted (or rejected) as explanations for homicide in Jamaica as this worldview is a misperception about poverty and only goes to deepen the stereotype of poor people. The current Minister of Justice in Jamaica said “so over the decades the justice ministry has had a diminishing percentage of the national budget, and the effect of it is the shortcomings in the

number of courtrooms, the deteriorating conditions of these courtrooms, the lack of adequate provisions of support staff for the judges” (in Hall, 2017, p. A.3). He continued that “the sector has also failed in its key role in the fight against crime, and whereas we need to fight crime with justice, you have more injustice being delivered than justice” (p. A. 3). The reality is, social injustice in a society (social system) is rarely brought into the discourse of homicide and rape; but the fact is, it is institutionalizing deviance and account for the present society.

The Minister of Justice has clearly articulated that the social system is at the core of the crime problem in Jamaica, this is totally accepted by this study as for decades poverty has been promulgated as the root when the issue is the social structure and its failure to create a justice society. To support the point of the Jamaican Minister of Justice, using cases of poor people across the globe, Narayan, Chambers, Shah, and Petesch (2000) wrote:

increasing crime linked to breakdown in social cohesion, difficulties in finding employment, hunger, increased migration, drugs and drug trafficking, actions and inactions of the police, and the building of roads that allow strangers to enter communities easily. Poor people connect crime with decline in social community, with competitiveness and people looking out only for themselves. (pp. 159-160)

The social system has kept people impoverished and this is responsible for the current state of homicide and rape in Jamaica as well as many other societies. To put another way, a study by the World Bank revealed that poor people across the globe indicated that the economic system (i.e. inflation, reduction in social services, currency devaluation, unemployment) and policies (privatization, liberalization, transition to market economies) have accounted for their impoverished status (Narayan & Petesch, 2002).

The present study revealed that inflation, unemployment, and other macroeconomic indicators impact homicide and rape in Jamaica. However, the world of poverty causing crime is wrong and must be changed, as the social structure that is alluded to by Narayan and Petesch (2002) is the cause and its outcome are crime and violence. Globally, the social structure is the same for the poor or marginalized people in society and this is aptly captured in this statement by a male Bulgarian “there is no mercy for you if you have stolen a chicken. There is no prison for you if you have stolen a million” (in Narayan & Petesch, 2002, p. 479). It can be deduced from the man’s perspective that social structure is different for the poor, and this is ultimate rationale for human experience among the poor across different geo-political zones (see also, Jamaica Observer, 2012; Wolfensohn, 2005; Beeghley, 2000; Davis & Moore, 1945). The poverty-homicide paradigm is cultured classist cosmology to retard people’s thinking from the issue of the social structure and its destruction role in human existence, especially among the poor. For centuries, studies have focused on the outcome and not the institutions and structure, and how these play a critical role in social systems. In order to provide an understanding of the effect of those issues on a society, an examination of Stein, Tommasi, Echebarria, Lora, and Payne’s (2006) words will place everything into perspective: “social and economic structures give rise to different configurations of actors in different countries at different times; these societal and economic actors exercise influence not only the making of policy but also the making of institutions” (p. 11). Clearly, the macroeconomic environment is impacting the actors and institutions in Jamaica and within a wider context, which means that the economic structure must be brought into the discourse of the crime reality.

Nations like Jamaica, Trinidad and Tobago, St. Kitts and Nevis, Bolivia, Argentina, and Brazil are

classified as third world economies. This classification refers to developing nations that have high rates of poverty, low life expectancies, high rates of infant mortality, lower educational attainment, and economic impoverishment-structural obstacles (Rapley, 1996; Cline, 2004). Rapley stated, “early version of dependency theory were inclined to claim that third world countries would remain locked into ‘classical dependence’, producing primary goods and importing finished goods” (p. 19). The social structure in third world nations is the root of the homicide and rape pandemic, and this is among the legacies of slavery. The contemporary reality of impoverishment, crimes and violence in third world nations is a part of the social structure fashioned by the elites. Rapley (1996) stated: “third-world bourgeoisies ruled in alliance with traditional landed elites, spending their profits on ostentation rather than on the investment that would accelerate growth” (p. 18). Rapley continued, indicating that “imperialism did not export capitalism to the third-world; rather, it had drained the colonies of the resources that could have been used for investment, and had killed off local capitalism through competition” (p. 18), which is the real issue of the crime problem and not a culture of poverty to explain homicide, rape and other major crimes. Hence, realignment of the matter to its roots is the first stage of change in thinking, and slavery’s hand accounts for the problems in third world nations.

Historically, during slavery, if people wanted to feel like a human, they had to create their social reality and risk harm by doing so. The social environment was so oppressive, exclusionary and harmful to the slaves that physical harm including killing and rape were used by the social structure (Beckford, 1999; Marshall, 2007). Rape was used as a weapon of suppression or personal gratifications for the slave master during slavery-social exploitation by the system (Allain, 2013; Linder, 2011). Owing to the fact that rape is a robbery of mind and body, it was rarely ever

brought up in discussion, and this medium was employed to curb deviant behaviour as well as for self-gratification of the plantation owners. The silence of rape has its legacy in slavery and this has continued into many developing and developed nations. One of the findings of this paper is the fact that rape is directly (or positively) influencing homicide rates. This means that some people will accept the vulnerability of the rape; but, some will seek to revenge the situation. The revenge of the situation is to kill the perpetrator(s) -sexual homicide. It can be deduced from this work that the silence of rape victim is enclosed with the instruction to murder the perpetrators. There may be a simple explanation of why some victims of rape would be silent, but desire the killing of the perpetrators. If this is the case, then the matter can be contextualized around VanKatwyk's (n.d.) statement that "the emotional system is a system that is present in all forms of life. It is exceedingly sensitive to its environment and responds to its stimuli generally in instinctual and automatic ways" (p. 2).

CONCLUSION

The old paradigm of poverty-homicide has been refuted by this study and an expansive new paradigm is forwarded here that homicide and rape are multi-dimensional issues, and as such require such approach to remedy the matters. The reality is, the social system in Jamaica is accounting for the state of social upheaval including homicide, rape and carnal abuse. The current study has four fundamental implications. These are 1) using social programmes to alleviate poverty and unemployment will not provide relief for the homicide or rape pandemic as the matter cannot be divorced from the general state in the society; 2) the old poverty-homicide paradigm will not be able to address the issue in the society as poverty is not causing homicide and therefore all the social programmes that are guided by this paradigm will have no effect on the homicide outcomes; 3) the culture of poverty approach

was created to circumvent the discourse from the real issue, which is the that of the social system itself; 4) the macroeconomic indicators are unit of analysis of the social system and should not be blamed from the responsibility of the social system.

The current findings mean we cannot further ignore the social conditions and social structure in the homicide and rape pandemic as for decades we have been using a misperception about poverty to stereotype poor people and this is why there is no solution to the homicide and rape situations. It is now the time for us to examine the reality and in support of accountability, resolutely place the blame at the root of the problem in Jamaica-the social structure and the social conditions. These are creating the nature and type of society that unfold and a culture of classism is used to mask the real issue-*the social structure*.

REFERENCES

- [1]. Allain, J. M. (2013). Sexual relations between elite white women and enslaved men in the Antebellum South: A socio-historical analysis. *Inquiries Journal/ Student Pulse*, 5(08). Retrieved from <http://www.inquiriesjournal.com/a?id=747>.
- [2]. Anderson-Gayle, S. G. (2009). *Poverty in Jamaica: The harsh realities*. Retrieved from http://www.my-island-jamaica.com/poverty_in_jamaica_level.html.
- [3]. Babbie, E. (2007). *The Practice of social research* (10th ed.). Belmont, CA: Wadsworth.
- [4]. Balashov, Y., & Rosenberg, A. (2002). Introduction. In Y. Balashoy & A. Rosenberg (Eds.), *Philosophy of science: Contemporary readings* (pp. 3-7). London, UK: Routledge.
- [5]. Becker, G. S. (1968). Crime and punishment: An economic approach. *Journal of Political Economy*, 76, 69-217.
- [6]. Beckford, G. (1999). *Persistent poverty: Underdevelopment in Plantation economies*

- of the third world, (2nd ed.) London, UK: Oxford University Press.
- [7]. Beeghley, L. (2000). *The structure of social stratification in the United States*. New York, NY: Pearson.
- [8]. Berg, B. L. (2001). *Qualitative research methods for the social sciences*. Boston, MA: Allyn and Bacon.
- [9]. Bishop, K.N. (2008, January 3). *Carnal abuse and 'weightly' consent*. Kingston, Jamaica: Jamaica Star, Jamaica Gleaner.
- [10]. Bourne, P, Hudson-Davis A, Sharpe-Pryce C, Francis C, Solan I, Nelson S, George M, Smith L, Brown L. (2015). The use of sexual assaults as a weapon in marriage and legal separation: Male crisis theory. *World Journal of Pharmacy and Pharmaceutical Sciences*, 4(6): 1589-1615.
- [11]. Bourne, P. A. (2011). Re-visiting the crime-and-poverty paradigm: An empirical assessment with alternative perspectives. *Current Research Journal of Economic Theory* 3(4), 99-117.
- [12]. Bourne, P. A., & Hudson-Davis, A. (2016) Does homicide influence psychiatric hospitalization to a mental health facility? A mathematical approach. *Journal of Mental Disorders and Treatment*, 2, 109. doi:10.4172/2471-271X.1000109
- [13]. Bourne, P. A., & Solan, I. (2012). Health, violent crimes, murder and inflation: Public health phenomena. *Journal of Behavioral Health* 1(1), 59-65.
- [14]. Bourne, P. A., Hudson-Davis, A., Sharpe-Pryce, C., Francis, C., Solan, I., Lewis, D, Anderson, H. (2015b). The effects of homicides and economics on human and social biology: A mental health challenge for a society? *International Journal of Emergency Mental Health and Human Resilience*, 17(2), 495-501.
- [15]. Bourne, P. A., Hudson-Davis, A., Sharpe-Pryce, C., Francis, C., Solan, I., & Nelson, S. (2015). Homicide, rape and carnal abuse in Jamaica, 1970-2013: The new health pandemics. *International Journal of Emergency Mental Health and Human Resilience*, 17(2), 588-597.
- [16]. Bourne, P.A., Hudson-Davis, A., Sharpe-Pryce, C., Solan, I., Nelson, S., Smith, L., Francis, C. (2015c). Homicide, sexual homicide and rape: A comparative analysis of Jamaica and New York, 1970-2013. *World Journal of Pharmacy and Pharmaceutical Sciences*, 4(11), 231-260.
- [17]. Bourne, P.A., Hudson-Davis, A., Sharpe-Pryce, C., Solan, I., Nelson, S., Smith, L., ... Salmon, T. (2015d). Is the Jamaican economy a disease and is it creating rapists and murderers? The ecopharmacodracosis and ecopsycarsogenic diseases are now named. *World Journal of Pharmacy and Pharmaceutical Sciences*, 4(12):169-196.
- [18]. Boxill, I., Chambers, C., & Wint, E. (1997). *Introduction to social research with applications to the Caribbean*. Kingston, Jamaica: Canoe Press/University of the West Indies.
- [19]. Bryman, A. (2001) *Social Research Methods*. Oxford, UK: Oxford University Press.
- [20]. Bureau of Diplomatic Security, United States Department of State. (2015). *Eastern Caribbean 2015 crime and safety report*. Retrieved from <https://www.osac.gov/pages/>.
- [21]. Content Report Details.aspx?cid=17240.
- [22]. Callen, T. (2012). *Gross domestic product: An economy's all*. Retrieved from <http://www.imf.org/external/pubs/ft/fandd/basics/gdp.htm>, accessed January 10, 2017.
- [23]. Carlqvist I, Hedegaard L. (2015) Sweden: Rape capital of the West. *Gatestone Institute*. Retrieved from <http://www.gatestoneinstitute.org/5195/sweden-rape> on.
- [24]. Chadee, D. (2003). Fear of crime and the risk of victimization: An ethnic comparison. *Social and Economic Studies*, 52(1), 73-98.

- [25]. Cline, W. R. (2004). *Trade policy and global poverty*. Washington, DC: Center for Global Development and the Institute for International Economics.
- [26]. Covey, S. (2004). *The 7 habits of highly effective people: Powerful lessons in personal change*. New York, NY: Free Press.
- [27]. Creswell, J. W. (2012). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.
- [28]. Crotty, M. (2005). *The foundations of social research: Meaning and perspective in the research process*. London, England: SAGE.
- [29]. Davies, S. (2003). *Empiricism and history*. London, UK: Palgrave.
- [30]. Davis, K. & Moore, W. (1945). Some principle of stratification. *American Sociological Review*, 10(2), 242-249.
- [31]. DeLisi, M. (2014). An empirical study of rape in the context of multiple murder. *Journal of Forensic Science*, 59(2) 420-424.
- [32]. Dicristina, B. (2004). Durkheim's theory of homicide and the confusion of the empirical literature. *Theoretical Criminology*, 8 (1), 57-91.
- [33]. Dieckhoff, M., & Gash, V. (2015). Unemployed and alone? Unemployment and social participation in Europe. *International Journal of Sociology and Social Policy*, 35(1/2), 67.
- [34]. Dike, S. (2014). La vida en la colonia: Oscar Lewis, the culture of poverty, and the struggle for the meaning of the Puerto Rican nation. *Centro Journal*, 26(1), 172-191.
- [35]. Durkheim, E. (1897/1951). *Suicide: A Study in sociology*. (J. Spaulding & G. Simpson, Trans.) New York: The Free Press.
- [36]. Durkheim, E. (1895/1964). *The Rules of Sociological Method*. (S. A. Solovay, & J. Mueller, Trans.) New York, NY: The Free Press.
- [37]. Durkheim, E. (1961). *Moral education: A Study in the Theory and Application of the Sociology of Education*. E. K. Wilson & H. Schnurer. New York, NY: The Free Press.
- [38]. Ellis, H. (1991). *Report on research into the causes of crime and violence in Jamaica: A study of prison inmates*. Kingston, Jamaica: National Task Force on Crime and Violence.
- [39]. Ellis H. (1992). *Identifying crime correlates in a developing society: A study of socio-economic and socio-demographic contributions to crime in Jamaica, 1950-84*. New York, NY: Peter Lang.
- [40]. Emmanuel, M. K. & Campbell, M. H. (2012). Commentary: Homicide-suicide in the Caribbean. *Journal of American Academy of Psychiatry Law*, 40(4): 469-471.
- [41]. Extremera, N., & Rey, L. (2016). Attenuating the negative impact of unemployment: The interactive effects of perceived emotional intelligence and well-being on suicide risk. *PLoS ONE* 11(9). e0163656. doi: 10.1371/journal.pone.0163656.
- [42]. Fajnzylber, P., Lederman, D., & Loayza, N. (2002). Inequality and violent crime. *Journal of Law and Economics*, 45,1-40.
- [43]. Ferranti, D., Perry, G.E., Ferreira, F.H.G., & Walton, M. (2004). *Inequality in Latin America: Breaking with history*. Washington, DC: The World Bank.
- [44]. Figueroa, M. (1998). Gender privileging and socio-economic outcomes: The case of health and education in Jamaica. In W. Bailey (Ed.), *Gender and the family in the Caribbean, Proceedings of the Workshop "Family and the Sexuality of Gender Relations, 5-6 March, 1997,"* (pp. 112-127). Kingston, Jamaica. Institute of Social and Economic Research.
- [45]. Figueroa, M., & Sives, A. (2003). Garrison politics and criminality in Jamaica: Does the 1997 election represent a turning point? In: A. Harriott (Ed.), *Understanding crime in Jamaica: New challenges for public policy* (pp. 63-68). Kingston, Jamaica: University of the West Indies Press.

- [46]. Fischer, P., Greitemeyer, T., & Frey, D. (2008). Self-regulation and selective exposure: The impact of depleted self-regulation resources on confirmatory information processing. *Journal of Personality and Social Psychology, 94*(3), 382-395.
- [47]. Francis, K. (2017, January 18). Bounty, Ninja lecture cops: Deejays give crime-fighting advice to the State. *Jamaica Observer*, pp. 1&4.
- [48]. Francis, A., Kirton, C. & Elvy, L. (2001, February). *Crime in Jamaica: A preliminary analysis*. Paper presented at the Second Caribbean Conference on Crime and Criminal Justice, University of the West Indies, Mona, Jamaica.
- [49]. Fregoso, N. (2015). *Theories of poverty*. Retrieved from <http://docslide.us/documents/theories-of-poverty.html>.
- [50]. Gagne, D. (2016, January, 14). Insight Crime's 2015 Latin America homicide round-up. *Insight Crime*. Retrieved from <http://www.insightcrime.org/news-analysis/insight-crime-homicide-round-up-2015-latin-america-caribbean>.
- [51]. Gans, H. (1995). *The war against the poor*. New York, NY: Basic Book.
- [52]. Gans, H. J. (2003). Poverty and powerlessness: The uses of poverty: The poor pay all. In J. M. Henslin & J. M. Henslin (Eds.), *Down to earth sociology: Introductory readings, 12th ed* (pp. 340-346). New York, NY, US: Free Press.
- [53]. Gordon, D. (1987). *Class, status and social mobility in Jamaica*. Kingston. Kingston, Jamaica: Institute of Social and Economic Research, University of the West Indies, Mona.
- [54]. Gorski, P. (2008). The myth of culture of poverty. *ASCD Educational Leadership, 65*(7), 8-13.
- [55]. Gray, O. (2003a). Rogue culture or avatar of liberation: The Jamaican lumpen proletarian. *Economic and Social Survey, 51*, 1-34.
- [56]. Gray, O. (2003b). Predation politics and the political impasse in Jamaica. *Small Axe, 13*, 72-94.
- [57]. Gray, O. (2003c). Badness-honour. In A. Harriott (Ed). *Understanding crime in Jamaica: New challenges for public policy* (pp. 13-48). Kingston, Jamaica: University of the West Indies Press.
- [58]. Griffith, I. L. (2004a). *Caribbean security in the age of terror: Challenge and change*. Kingston, Jamaica: Ian Randle.
- [59]. Griffith, I. L. (2004b). Introduction: Understanding reality, interpreting change. In I. L. Griffith (Ed.), *Caribbean security in the age of terror: Challenge and change*. Kingston, Jamaica: Ian Randle.
- [60]. Gubrium, J., & Holstein, J. (2001). *Handbook of interview research: Context and method*. Thousand Oaks, CA: Sage.
- [61]. Hall, A. (2017, January). 40 years of neglect-Chuck admits political administrations have failed justice system. *Jamaica Gleaner*, pp. A3.
- [62]. Harriott, A. (2003). *Understanding crime in Jamaica: New challenges for public policy*. Kingston, Jamaica: University of the West Indies Press.
- [63]. Harriott, A. (2004a). Introduction. In A. Harriott, F. Brathwaite, S. Wortley (Eds.), *Crime and criminal justice in the Caribbean* (pp. 1-7). Kingston, Jamaica: Arawak.
- [64]. Harriott, A. (2004b). The Jamaican crime problem: Some policy consideration. In A. Harriott, F. Brathwaite, S. Wortley (Eds.), *Crime and criminal justice in the Caribbean* (pp. 238-264). Kingston, Jamaica: Arawak.
- [65]. Harriott, A. (2004c). Fear of criminal victimization in reputedly violent environment. In A. Harriott, F. Brathwaite, S. Wortley (Eds.) *Crime and criminal justice in the Caribbean* (57-86). Kingston, Jamaica: Arawak.

- [66]. Harriott, A. D. & Jones, M. (2016). *Crime and violence in Jamaica: IDB series on crime and violence in the Caribbean*. Technical Note No: IDB-TN 1060. Retrieved from <https://publications.iadb.org/bitstream/handle/11319/7773/Crime-and-Violence-in-Jamaica-IDB-Series-on-Crime-and-Violence-in-the-Caribbean.pdf?sequence=4>.
- [67]. Headley, B. (1994). *The Jamaican crime scene: A perspective*. Kingston, Jamaica: Eureka Press.
- [68]. Henry, C., & Longmore, R. (2003). *Current account dynamics and the real effective exchange rate: The Jamaican experience*. Kingston, Jamaica: Bank of Jamaica.
- [69]. Higman, B. W. (2005). *Plantation Jamaica, 1750-1850: Capital and credit control in a colonial economy*. Kingston, Jamaica: University of the West Indies Press.
- [70]. Inter-American Development Bank (2003). *Annual Report*. <http://www.iadb.org/exr/ar99/>.
- [71]. ar2003/_eng.pdf
- [72]. Jamaica Observer (2012). *Redistributive policies have not helped the poor, says Damien King*. Retrieved from http://www.jamaicaobserver.com/news/Redistributive-policies-have-not-helped-the-poor--says-Damien-King_12098736.
- [73]. Kerbo, H. R. (2012). *Social stratification and inequality : Class conflict in historical, comparative, and global perspective* (8th ed.). New York, NY: McGraw-Hill.
- [74]. Koppensteiner, M. F. & Manacorda, M. (2015). *Violence and birth outcomes: Evidence from homicides in Brazil*. CEP Discussion Paper No 1323, January 2015. Retrieved from <http://cep.lse.ac.uk/pubs/download/dp1323.pdf>.
- [75]. Kuhn, T.S. (1996). *The structure of scientific revolutions* (3rd ed.). Chicago, IL: The University of Chicago Press.
- [76]. Leslie, G. (2010). *Confronting the don: The political economy of gang violence in Jamaica*. Geneva, Switzerland: Small Arms Survey.
- [77]. Levy, H. (1996). *They cry 'respect': Urban violence and poverty in Jamaica*. Kingston, Jamaica: Centre for Population, Community and Social Change, Department of Sociology and Social Work, the University of the West Indies.
- [78]. Lewis, O. (1966). The culture of poverty. *American*, 215(4): 19-25.
- [79]. Lewis-Beck, M. S. (1980), *Applied Regression: An introduction*. Beverly Hills, CA: Sage.
- [80]. Library of Congress (1987). *Caribbean islands: A country study*. Washington, DC: Library of Congress, Federal Research Division.
- [81]. Linder, D.O. (2011). *Celia, a Slave, trial (1855): An account*. Retrieved from <http://law2.umkc.edu/faculty/projects/ftrials/celia/celiaaccount.html>.
- [82]. Mamingi, N. (2005). *Theoretical and empirical exercises in econometrics*. Kingston, Jamaica: University of the West Indies Press.
- [83]. March, C & Bourne, P.A. (2011). The Influence of macroeconomic factors on murders in Jamaica: Should the police be cautious in interpreting the murder statistics? *Asian Journal of Business Management*, 3(4), 257-277.
- [84]. Marshall, B. (2007). *Slavery, law and society in the British Windward Islands 1763-1823*. Kingston, Jamaica: Arawak.
- [85]. Marx, K. (1932) *The Economic and philosophical of manuscripts*. Retrieved from <http://www.wehavephotoshop.com/PHILOSOPHY%20NOW/PHILOSOPHY/Marx/Marx,.Karl.-Economic.And.Philosophical.Manuscripts.pdf>.
- [86]. McFarlane, L. (2002). *Consumer price inflation and exchange rate pass-through in Jamaica*. BOJ Working Paper.
- [87]. McKee-Ryan, F. M., Song, Z., Wanberg, C. R., & Kinicki, A. J. (2005). Psychological and

- physical well-being during unemployment: a meta-analytic study. *Journal of Applied Psychology*, 90(1), 53-76.
- [88]. McPherson, M. F. and Rakovski, T. (2000). *Exchange rates and economic growth in Kenya: An econometric analysis*. BelferCenter for Science & International Affairs. John F. Kennedy School of Government.
- [89]. Meeks, B. (2000). *Narratives of resistance: Jamaica, Trinidad, the Caribbean*. Kingston, Jamaica: The University of the West Indies Press.
- [90]. Michas, G., Varytimiadi, A., Micha, R. (2013). The Greek financial crisis and homicide rates: Another reason to worry. *Journal of Epidemiology and Community Health*, 67(12), 1073.
- [91]. Miller, E. (1994). *Marginalisation of the black male*. Kingston, Jamaica: Canoe Press.
- [92]. Ministry of National Security (2006). *PATH: What is PATH?* Retrieved from <http://www.mlss.gov.jm/pub/index.php?artid=23>.
- [93]. Mlakar, J.S. (2011). *Unemployment: a closer look*. Hauppauge, NY: Nova Science.
- [94]. Narayan, D., Chambers, R., Shah, M. K., & Patesch, P. (2000). *Voices of the poor: Crying out for change*. Washington, DC: The International Bank for Reconstruction and Development.
- [95]. Narayan, D., & Patesch, P. (2002). *Voices of the poor: From many lands*. Washington DC: The International Bank for Reconstruction and Development.
- [96]. Neuman, W. L. (2006). *Social research methods: Qualitative and quantitative approaches* (6th ed.). New York, NY: Pearson/Allyn and Bacon.
- [97]. O'Brien, M. (2013). The terrifying reality of long-term unemployment: It's an awful catch-22: Employers won't hire you if you've been out of work for more than six months. *The Atlantic*. Retrieved from <https://www.theatlantic.com/business/archive/2013/04/the-terrifying-reality-of-long-term-unemployment/274957/>
- [98]. Planning Institute of Jamaica (PIOJ) (2012). *Jamaica Survey of Living Conditions: 2012*. Kingston, Jamaica: Planning Institute of Jamaica.
- [99]. Powell, L. A., Bourne, P., & Waller, L. (2007). *Probing Jamaica's political culture, volume 1: Main trends in the July-August 2006 leadership and governance survey*. Kingston, Jamaica: Centre for leadership and governance, Department of Government, the University of the West Indies, Mona.
- [100]. Rank, M. (2004). *One nation underprivileged: Why American poverty affects us all*. New York, NY: Oxford Press.
- [101]. Rapley, J. (1996). *Understanding development: Theory and practice in the third world*. Boulder, CO: Lynne Rienner.
- [102]. Robotham, D. (2003). Crime and public policy in Jamaica. In A. Harriott (Ed.), *Understanding crime in Jamaica: New challenges for public policy* (197-238). Kingston, Jamaica: University of the West Indies Press.
- [103]. Sachs, J.D. (2005). *The end of poverty: Economic possibilities for our time*. New York, NY: The Penguin Press.
- [104]. Samenow, S. E. (2014, December 24). Crime causes poverty: A reversal of the conventional wisdom. *Psychology Today*. Retrieved from <https://www.psychologytoday.com/blog/>
- [105]. [inside-the-criminal-mind/201412/crime-causes-poverty](https://www.inside-the-criminal-mind.com/2014/12/crime-causes-poverty), accessed on December 11, 2016.
- [106]. Sameti, M., Esfahani, R. D., & Haghghi, H. K. (2012). *Theories of poverty: A comparative analysis*. Retrieved from: <http://www.omicsonline.com/open-access/theories-of-poverty-a-comparative-analysis-2224-8358-1-151.pdf?aid=18311>
- [107]. Sariaslan, A., Larsson, H., D'Onofrio, B.,

- Långström, N., & Lichtenstein, P. (2014). Childhood family income, adolescent violent criminality and substance misuse: Quasi-experimental total population study. *The British Journal of Psychiatry*, 1-5. Retrieved from <http://bjp.rcpsych.org/content/bjprcpsych/early/2014/08/14/bjpp.113.136200.full.pdf>.
- [108]. Schwartz, A. (2000). *The Rise and Fall of Central Bank Intervention*. NBER, Working Paper # 7751.
- [109]. Simmonds, L. E. (2004). The problem of crime in an urban slave society: Kingston in the early nineteenth century. In A. Harriott, F. Brathwaite, & S. Wortley (Eds.), *Crime and criminal justice in the Caribbean* (8-34). Kingston, Jamaica. Arawak.
- [110]. Sives, A. (1997). *Violence and politics in Jamaica*. (Unpublished dissertation). University of Bradford, Bradford.
- [111]. Sives, A. (2003). The historical roots of violence in Jamaica: The Hearne Report 1949" in A. Harriott (Ed.), *Understanding crime in Jamaica: New challenges for public policy* (pp. 49-62). Kingston, Jamaica: University of the West Indies Press.
- [112]. Small, M. L., Harding, D. J., & Lamont, M. (2010). Reconsidering culture and poverty: An introduction. *The ANNALS of the American Academy of Political and Social Science*, 629, 30-52. doi: 10.1177/0002716210366532
- [113]. Speziale, N. (2014). Does unemployment increase crime? Evidence from Italian provinces. *Applied Economics Letters*, 21, 1083-1089.
- [114]. Statistical Institute of Jamaica (STATIN), 2014. *About us*. Retrieved from <http://statinja.gov.jm/About.aspx>.
- [115]. gov.jm/About.aspx.
- [116]. Stein, E., Tommasi, M., Echebarria, K., Lora, E., and Payne, M. (2006). *The politics of policies: Economic and social progress in Latin America, 2006 report*. Washington, DC: Inter-American Development Bank.
- [117]. The Economist. (2014, August 23). *To have and have not: A disturbing study of the link between incomes and criminal behaviour*. Retrieved <http://www.economist.com/news/science-and-technology/21613303-disturbing-study-link-between-incomes-and-criminal-behaviour-have-and>.
- [118]. Townsend, P. (1979). *Poverty in the United Kingdom: A survey of household resources and standards of living*. Middlesex, England: Penguin Books.
- [119]. Tremblay, R. (1995). Developmental crime prevention. In M. Tonry & D. P. Farrington (Eds.), *Building a safer society*. Chicago, IL: University of Chicago Press.
- [120]. Tremblay, R.E., & Craig, W.M. (1995). Developmental crime prevention. In M. Tonry & D.P. Farrington (Eds.), *Crime and justice: An annual review of research (Building a Safer Society: Strategic Approaches to Crime Prevention)*. Chicago, IL: University of Chicago Press.
- [121]. United Nations. (2005). *The inequality predicament: Report on the world social situation 2005*. New York, NY: United Nations.
- [122]. United Nations (UN) & Economic Commission for Latin America and the Caribbean (ECLAC). (2008). *Exploring policy linkages between poverty, crime and violence: A look at three Caribbean states*. Port of Spain, Trinidad: ECLAC.
- [123]. United Nations (UN) & World Bank (2007). *Crime, violence, and development: trends, costs, and policy options in the Caribbean-Report No. 37820*. New York, NY: UN and World Bank.
- [124]. United Nations Office on Drugs and Crime. (2013). *Global study on homicide 2013: Trends, contexts, data*. Retrieved from https://www.unodc.org/documents/gsh/pdfs/2014_.
- [125]. GLOBAL_HOMICIDE_BOOK_web.pdf
- [126]. United Nations Children's Fund (UNICEF) (2009). *Fast facts on adolescents and youth*

- in latinamerica and the caribbean.*
Retrieved from www.unicef.org/media/files/Fast_facts__.
- [127].EN.doc
- [128].VanKatwyk, P.L. (n.d). *Family and social systems dynamics.* Retrieved from http://www.spiritualcare.ca/flow/uploads/pdfs/FAMILY_SOCIAL_SYSTEMS1.pdf
- [129].Weber, M. (1947). *The theory of social and economic organization* (A. M. Henderson & T. Parsons, Trans.). New York, NY: The Free Press.
- [130].Wolfensohn, J.D. (2005). *Voice for the world's poor: Selected speeches and writings of World Bank President James D. Wolfensohn, 1995-2005.* Washington, DC: World Bank.
- [131].World Bank. (2004). *The World Bank research program 2004: Abstracts of current studies.* Washington, DC: World Bank.
- [132].World Bank (2016a). *A measured approach to ending poverty and boosting shared prosperity: Concepts, data, and the twin goals. policy research report.* Washington, DC: World Bank. doi:10.1596/978-1-4648-0361-1. License: Creative Commons Attribution CC BY 3.0 IGO
- [133].World Bank. (2016b). *Intentional homicides (per 100,000 people).* Retrieved from <http://data.worldbank.org/indicator/VC.IH.R.PSRC.P5>, accessed on November 11, 2016.
- [134].World Bank (2016c). *Overview.* Retrieved from <http://www.worldbank.org/en/country/jamaica/>.
- [135].Overview.
- [136].World Health Organization (WHO) (2012). *World report on violence and health.* Geneva, Switzerland: WHO.
- [137].Zahedieh, N. (1986). Trade, plunder and economic development in early English Jamaica, 1655-1689. *Economic History Review 2nd series* 39(2), 205-22.

Appendix Table 1

Year	Rape rate	Homicide rate	ER	Inflation rate	Unemployment rate	GDP per capita (US\$)
1970	22.95	8.13	0.77	14.7		752
1971	29.09	7.63	0.77	5.3		812
1972	28.15	8.8	0.9	5.4	23.2	974
1973	34.03	11.51	0.91	17.9	21.9	974
1974	22.91	9.71	0.91	27.2	21.1	1196
1975	26.44	13.02	0.91	17.4	20.7	1421
1976	32.05	17.5	0.91	9.8	22.4	1456
1977	ND	19.26	1.41	11.2	24.2	1578
1978	ND	17.72	1.76	34.9	26.9	1271
1979	ND	16.15	1.78	29.1	31.1	1153
1980	35.96	42.14	1.78	27.3	27.3	1256
1981	34.96	22.66	1.78	12.7	25.9	1378
1982	40.59	18.41	1.92	6.5	27.6	1497
1983	36.82	18.92	3.94	11.6	26.4	1615
1984	39.13	21.23	5.58	27.8	25.5	1041
1985	37.13	18.78	5.5	25.7	25.01	909
1986	38.96	19.22	5.51	15.1	23.7	1179
1987	42.84	18.8	5.51	6.7	21	1398
1988	47.45	17.57	5.77	8.3	19.1	1625
1989	45.94	18.48	7.24	14.3	15.2	1855
1990	41.86	22.56	12.22	22	15.7	1921
1991	44.98	23.13	22.99	51.1	15.4	1692
1992	45.26	25.69	25.11	77.3	15.7	1457
1993	53.27	26.82	33.29	22.1	16.3	1991
1994	43.51	28.06	35.35	35.1	15.4	1995
1995	64.51	31.35	37.25	19.9	16.2	2330
1996	71.44	36.77	35.51	26.4	16	2591
1997	60.43	40.82	36.65	9.7	16.5	2940
1998	55.39	37.17	39.2	8.6	15.5	3410
1999	48.84	32.88	43.08	6	15.7	3417
2000	50.36	34.26	43.08	8.2	15.5	3448
2001	46.77	45.74	46.08	7	15	3448
2002	43.78	39.96	48.54	7.1	14.2	3707
2003	49.82	37.13	57.93	10.3	11.8	3581
2004	48.1	55.76	61.34	13.6	12.2	3854
2005	40.45	63.16	62.5	15.3	11.2	4238
2006	42.88	50.32	65.88	8.6	10.3	4487
2007	41.33	58.82	69.06	9.3	9.9	4817
2008	54.29	59.58	72.92	22	10.6	5119

2009	43.59	62.32	88.49	9.6	11.4	4489
2010	55.09	52.98	87.38	12.6	12.4	4902
2011	49.48	41.67	86.08	7.5	13	5332
2012	63.34	40.44	88.99	6.9	13.9	5446
2013	58.79	44.2	100.77	9.3	15.3	5254
2014		36.64	114.6	8.3	14.2	5119
2015		45	120.42	3.7	13.5	5138

ER denotes the exchange rate of US \$1 for Jamaican dollars

Annex Table 2. Tests of Between-Subjects Effects							
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	P	Partial Eta Squared
Corrected Model	Homicide rate	3375.405 ^a	5	675.081	17.611	<0.0001	.823
	Rape rate	630.641 ^b	5	126.128	2.482	.068	.395
Intercept	Homicide rate	756.184	1	756.184	19.726	<0.0001	.509
	Rape rate	6.309	1	6.309	.124	.728	.006
ER	Homicide rate	75.629	1	75.629	1.973	.176	.094
	Rape rate	12.615	1	12.615	.248	.624	.013
Inflation	Homicide rate	15.768	1	15.768	.411	.529	.021
	Rape rate	.116	1	.116	.002	.962	.001
GDP per capita	Homicide rate	6.053	1	6.053	.158	.696	.008
	Rape rate	14.471	1	14.471	.285	.600	.015
Unemployment	Homicide rate	283.248	1	283.248	7.389	.014	.280
	Rape rate	480.586	1	480.586	9.457	.006	.332
Poverty	Homicide rate	252.394	1	252.394	6.584	.019	.257
	Rape rate	.016	1	.016	0.001	.986	.001
Error	Homicide rate	728.336	19	38.333			
	Rape rate	965.539	19	50.818			
Total	Homicide rate	44913.398	25				
	Rape rate	65453.470	25				
Corrected Total	Homicide rate	4103.741	24				
	Rape rate	1596.180	24				
a. R Squared = 0.823 (Adjusted R Squared = 0.776)							
b. R Squared = 0.395 (Adjusted R Squared = 0.236)							

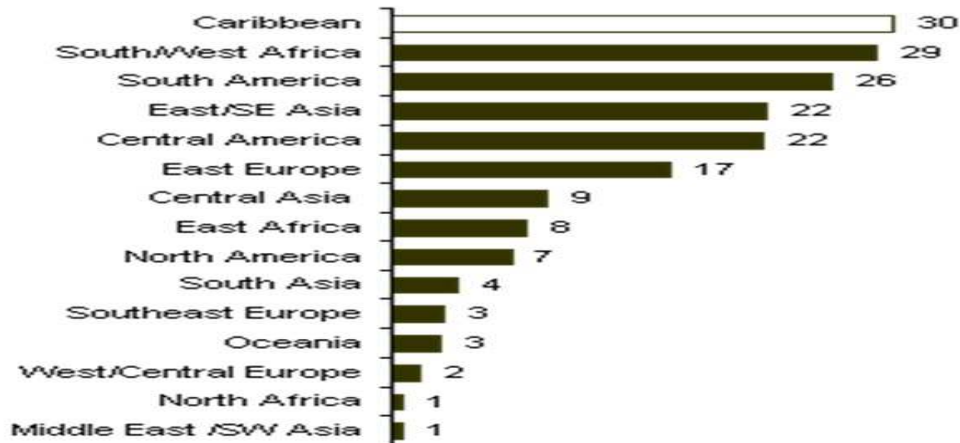


Figure 1. Homicide rate in the world, 2002 (United Nations and World Bank, 2007)

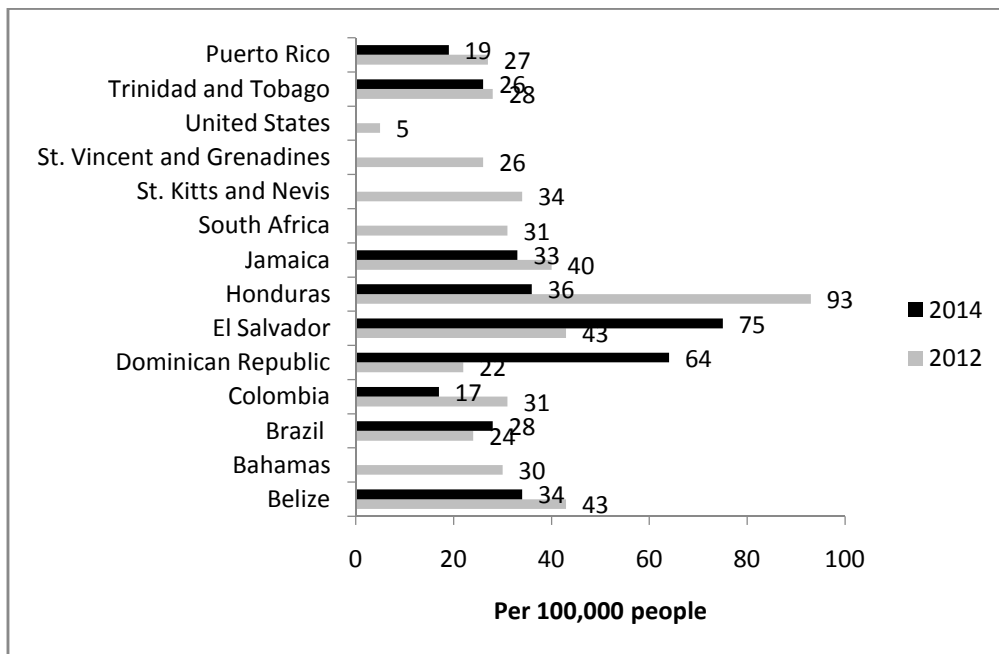


Figure 2. Extracted from World Bank's statistics (World Bank, 2016)

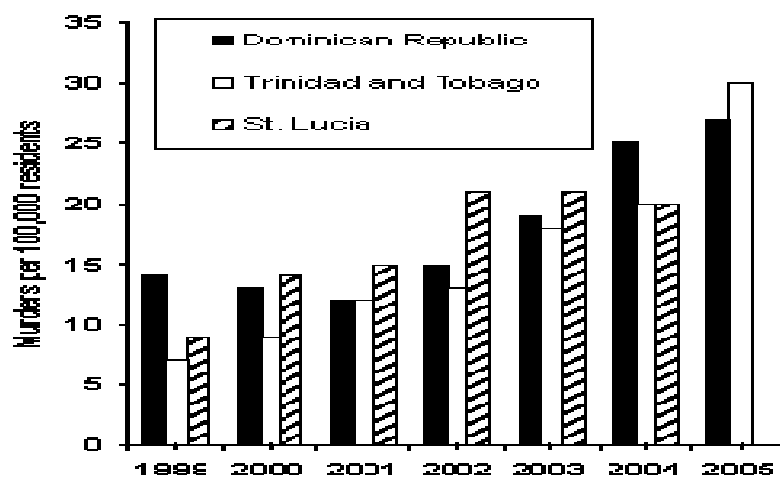


Figure 3. Homicide rate per 100,000 pop. In selected Caribbean nations